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21 March 1983

Worldwide Report

EPIDEMIOLOGY

No. 313

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INTER-AMERICAN AFFAIRS

BRIEFS

GUYANA-BRAZIL YELLOW FEVER FIGHT--A joint Guyana-Brazil medical team is now working along the Guyana Brazil border in an effort to eradicate yellow fever from the area, said Dr Walter Chin, Chief Medical Officer of the Ministry of Health. During late last year five deaths were reported to have occurred in the Guyana side of the border and since then the Ministry of Health has been working with the Brazilian authorities to eradicate the disease. Dr Walter Chin and a team of medical personnel returned to the country on Thursday after holding talks with Dr Mineire, Secretary for Health in Brazil and other medical personnel. Also included in the Guyana team were Dr London and two nurses. Dr Chin said that members of the joint team started innoculating residents of Orinduik and other neighbouring villages against yellow fever. He said that the team hopes to complete its work by Monday. It was also disclosed that a similar exercise had already been carried out by the joint Guyana-Brazil medical team and that the vaccines were being donated by the Brazilian Government. The Chief Medical Officer said that the Ministry of Regional Development in the area would be monitoring the situation and would be in touch with the Ministry of Health in Georgetown. [Text] [Georgetown GUYANA CHRONICLE in English 29 Jan 83 p 5]

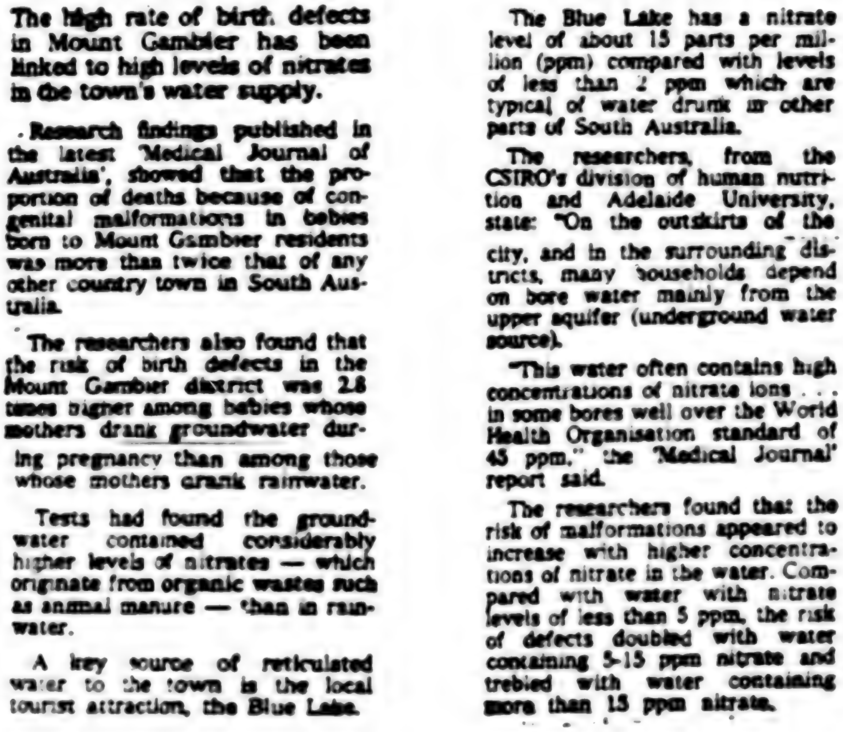
CSO: 5400/7547

NITRATES IN LAKE LINKED TO BIRTH DEFECTS IN AREA

Melbourne THE AGE in English 29 Dec 82 p 1

[Article by Mark Metherell]

[Text]



The high rate of birth defects in Mount Gambier has been linked to high levels of nitrates in the town's water supply.

Research findings published in the latest 'Medical Journal of Australia', showed that the proportion of deaths because of congenital malformations in babies born to Mount Gambier residents was more than twice that of any other country town in South Australia.

The researchers also found that the risk of birth defects in the Mount Gambier district was 2.8 times higher among babies whose mothers drank groundwater during pregnancy than among those whose mothers drank rainwater.

Tests had found the groundwater contained considerably higher levels of nitrates — which originate from organic wastes such as animal manure — than in rainwater.

A key source of reticulated water to the town is the local tourist attraction, the Blue Lake.

The Blue Lake has a nitrate level of about 15 parts per million (ppm) compared with levels of less than 2 ppm which are typical of water drunk in other parts of South Australia.

The researchers, from the CSIRO's division of human nutrition and Adelaide University, state: "On the outskirts of the city, and in the surrounding districts, many households depend on bore water mainly from the upper aquifer (underground water source).

"This water often contains high concentrations of nitrate ions . . . in some bores well over the World Health Organisation standard of 45 ppm," the 'Medical Journal' report said.

The researchers found that the risk of malformations appeared to increase with higher concentrations of nitrate in the water. Compared with water with nitrate levels of less than 5 ppm, the risk of defects doubled with water containing 5-15 ppm nitrate and trebled with water containing more than 15 ppm nitrate.

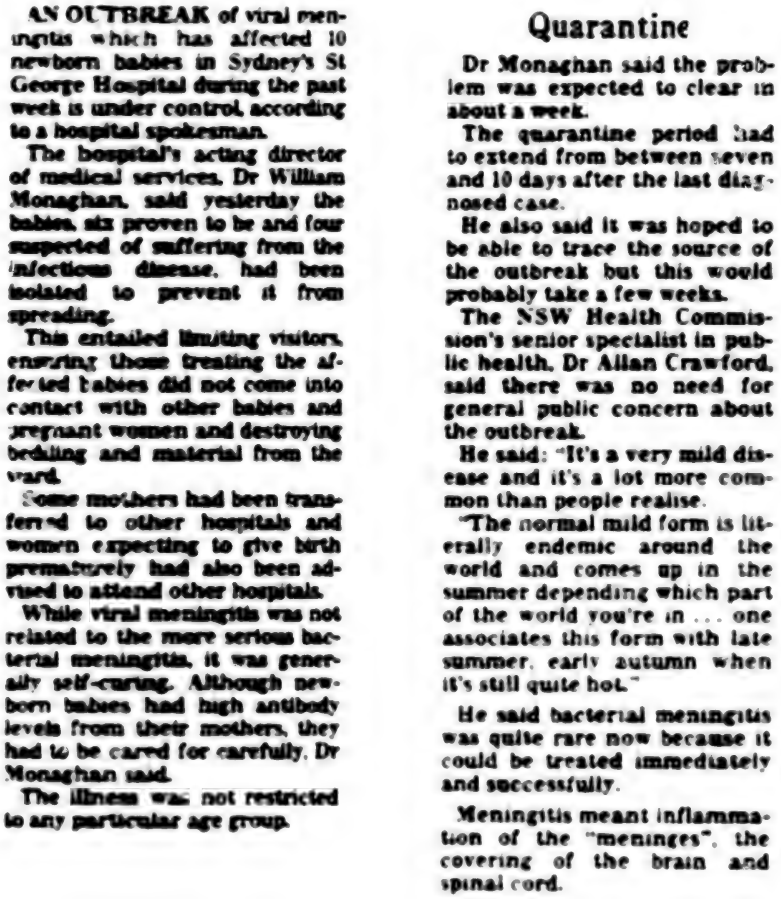
CSO: 5-300/7545

AUSTRALIA

VIRAL MENINGITIS STRIKES BABIES IN SYDNEY HOSPITAL

Canberra THE AUSTRALIAN in English 3 Jan 83 p 2

[Text]



AN OUTBREAK of viral meningitis which has affected 10 newborn babies in Sydney's St George Hospital during the past week is under control, according to a hospital spokesman.

The hospital's acting director of medical services, Dr William Monaghan, said yesterday the babies, six proven to be and four suspected of suffering from the infectious disease, had been isolated to prevent it from spreading.

This entailed limiting visitors, ensuring those treating the affected babies did not come into contact with other babies and pregnant women and destroying bedding and material from the ward.

Some mothers had been transferred to other hospitals and women expecting to give birth prematurely had also been advised to attend other hospitals.

While viral meningitis was not related to the more serious bacterial meningitis, it was generally self-curing. Although newborn babies had high antibody levels from their mothers, they had to be cared for carefully, Dr Monaghan said.

The illness was not restricted to any particular age group.

Quarantine

Dr Monaghan said the problem was expected to clear in about a week.

The quarantine period had to extend from between seven and 10 days after the last diagnosed case.

He also said it was hoped to be able to trace the source of the outbreak but this would probably take a few weeks.

The NSW Health Commission's senior specialist in public health, Dr Allan Crawford, said there was no need for general public concern about the outbreak.

He said: "It's a very mild disease and it's a lot more common than people realise.

"The normal mild form is literally endemic around the world and comes up in the summer depending which part of the world you're in ... one associates this form with late summer, early autumn when it's still quite hot."

He said bacterial meningitis was quite rare now because it could be treated immediately and successfully.

Meningitis meant inflammation of the "meninges", the covering of the brain and spinal cord.

CSO: 5400/7545

INCIDENCE OF DENGUE FEVER REMAINS; FOGGING CONTINUES

Bridgetown SUNDAY SUN in English 23 Jan 83 p 2

[Text]

DENGUE fever is still prevalent and Barbadians must take all necessary steps to contain this deadly virus.

According to Senior Medical Officer, Dr. Vaughn Wells, so far this year there have been numerous dengue fever reports.

He noted that of 114 suspected cases reported since June last year, investigations have proven some 50 of them to be affirmative, showing the need for serious cautionary measures on the part of Barbadians.

Dr. Wells believed that since the Ministry of Health had stopped its previous fogging exercise, Barbadians might have become complacent and subsequently had "slackened-up" in their precautionary measures. The exercise was resumed last week.

He appealed to people, especially those living in low-lying districts, to cease placing garbage or containers in areas where they might catch water.

Senior Public Health Officer, Charles Browne, noted that breeding places for mosquitoes had been discovered in receptacles like cement bricks, walls of unfinished houses, sno-cone cups and other containers which are left lying around.

He noted that the fogging exercise by the Ministry was only effective in killing adult mosquitoes and those flying around.

He pointed out: "It is useful to note that a mosquito goes through three separate stages, and that the fogging exercise is only effective in one of them. Thus, persons have to rid their properties of these insects during the other stages of growth."

Browne noted that mosquitoes which are not affected by the fogging, only become dangerous after they had bitten an infected person and are allowed to live for a further eight days.

He reminded Barbadians that the symptoms of dengue fever were headache, muscle pains, and "break-bone" fever.

CSO: 3400/7546

EDITORIAL EXAMINES DIARRHEAL DISEASES PROBLEM

Rangoon THE WORKING PEOPLE'S DAILY in English 3 Feb 83 p 4

[Editorial]

[Text]

DIARRHOEAL diseases pose an important public health problem in our country and this acute problem is a challenge to the Health Department.

To meet this challenge the Health Department launched the People's Health Plan and is taking wide measures against this infectious disease.

In this connection, a Mid-level CDD (Diarrhoeal Diseases Control) Programme Managers Training Course, sponsored jointly by the World Health Organization and the Ministry of Health was opened at the Burma Medical Association recently and Director-General of the Health Department U Khin Maung Nyein addressed the opening ceremony.

In his address, the Director-General of the Health Department pointed out that out of the 56 health problems identified during the preparatory phase of the Second People's Health Plan, diarrhoeal diseases were prominent among the ten diseases, and priorisation of diseases by means of composite weighted scores revealed diarrhoeal diseases as health problem No 1, followed by malaria, and that diseases are on the rising trend.

The Director-General of the Health Department also pointed out that statistical data in 1981 showed a very high morbidity ranging from 500 to 3,600 per 100,000 population in the States and Divisions—a morbidity rate of the lowest 580 in Mon State, to the highest 36,000 in Chin State.

As diarrhoeal diseases are most prevalent in infants under one year of age, special attention must be paid to the infants and health education be provided to the parents.

The outbreak of diarrhoeal diseases mainly occur due to poor hygiene of the members of the public and low environmental sanitation. Doctors, nurses and hospital staff should not concentrate mainly on treatment work only but also educate the patients who come for treatment as well as their attendants on personal hygiene and environmental sanitation. This would bring down the rate of outbreak of such infectious diseases.

It would also be advisable for the public to refrain from eating stale and cold food and preserved fruits. The disease can also be prevented by keeping the environment clean, using clean water and eradicating flies.

With the co-operation of the World Health Organization, the Health Department, all those concerned and the entire working people, we are sure that greater success will be met in diarrhoeal diseases control activities in our country.

CSO: 5400/4377

BRIEFS

VECTOR CONTROL EXPERTS--Roseau, Jan. 23 (CANA) Two experts in vector control have arrived here to advise Government on means of controlling disease-carrying insects and rodents. Pan American Health Organisation (PAHO) Technical Officer, Ronald Aarons and Caribbean Area Advisor, Bruce Knudson are assisting in mapping out an integrated approach that will cover the entire island with regards to vector control, the Government reported today. Their visit is part of Government's intersectoral approach to primary health care and a Government statement said the programme "constitutes part of the nation's health plan." It said that the Ministry of Health was training personnel to undertake direction and supervision of the vector control programme. [Text] [Kingston THE DAILY GLEANER in English 29 Jan 83 p 14]

CSO: 5400/7543

BRIEFS

INCREASE IN DIPTHERIA OUTBREAKS--Thirty-five cases of diptheria were reported among the infantile population of the county this past year, according to a report of the Epidemiology Division, headed by Dr Rolando Hernandez Argueta. Five cases have already been reported so far this year, which worries health authorities. Dr Hernandez points out that this unusual activation of diptheria is a consequence of the decrease in the administration of vaccinations, owing to the sociological and environmental conditions which our country is experiencing and which have hampered the activities of vaccination teams for 3 years, especially in the rural areas, where 60 percent of the Salvadoran population is concentrated. It is also said that in urban areas and in the suburbs vaccination problems are due to the constant displacement of large masses of people from the countryside, who for the most part lack the protection provided by vaccines. This has resulted in the appearance of these cases of diptheria, which show signs of an epidemic outbreak. The population is therefore advised to have children under 5 years of age vaccinated at the health units and centers nearest their homes, to avoid as much as possible the appearance of further cases that may endanger the health and the very life of the children who lack protection. [Excerpt] [San Salvador EL MUNDO in Spanish 16 Feb 83 p 2] 8255

CSO: 5400/2048

BRIEFS

DRUG SUPPLIES--A shipment of essential drugs has arrived and is being apportioned for distribution to hospitals and health centres around the country. Another shipment is due by weekend and orders are being prepared for further supplies, Health, Environment and Water Supply Minister, Richard Van West-Charles, told the Chronicle yesterday. The shipment which arrived last week cost G$1/2 million and include antibiotics, tranquillisers and drugs for the treatment of epilepsy, asthma and a wide range of other illnesses (as well as guaze and cottonwool), added Chief Medical Officer Dr Walter Chin. Minister Van West-Charles also disclosed that some of the drugs, mostly antibiotics, were stolen when parcels were broached on arrival here. He expressed regret that efforts to improve the country's health services, even at this time of scarce foreign exchange, should suffer a setback because of the selfish actions of a few. The drugs were bought from Holland and the USA. The shipment to come in this week was ordered from Miami, the Minister disclosed. [Text] [Georgetown GUYANA CHRONICLE in English 25 Jan 83 p 1]

GASTROENTERITIS INCREASE--The Ministry of Health has confirmed that there has been an increase this year in cases of gastroenteritis treated at the hospitals and health centres. Chief Medical Officer Dr Walter Chin told the Chronicle yesterday that "in comparison with January last year there has been an increase." He said there were two infections--influenza and gastro--which seem to show an increase every January and February, but admitted he was unable to give an explanation for the phenomenon. He disclosed also, that last year was an exception to the trend with reported cases remaining relatively stable. This too, could not be explained, he said. Meanwhile, the health authorities are appealing to parents to take suspected cases immediately to their district health centre or hospital. The symptoms of gastro-enteritis are vomiting and diarrhoea. [Text] [Georgetown GUYANA CHRONICLE in English 25 Jan 83 p 8]

CSO: 5400/7547

STEPS TAKEN TO FIGHT 'MONKEY DISEASE' EPIDEMIC

Bombay THE TIMES OF INDIA in English 2 Feb 83 p 14

[Text]

MANGALORE, February 1.

THE worst part of the forest disease, also known as "monkey disease," that has taken a toll of 23 human lives in Belthangady taluka of Dakshina Kannada district in Karnataka, is over. But remedial measures will have to continue, according to officials.

The virus infection which has created panic in the area has claimed 13 lives at Patrame village situated in the dense forest area. In all, 168 people have been hospitalised with symptoms of headache. Most of the victims were forest labourers. The infection was first noticed at Patrame soon after felling was commenced by forest contractors in the first week of January.

The viral infection took a virulent form in the first ten days and the cases in the inaccessible forest tract went unreported. This was more due to superstition than non-availability of medical assistance. It was associated with retribution for felling of trees and killing of snakes and also evil spirits.

Strangely enough the treatment initially was for encephalitis. It was only when cultures were sent to the Shimoga monkey disease research centre that it was diagnosed as "monkey disease." The number of deaths of primates, the carriers of the disease, is anybody's guess.

UNTIRING EFFORTS

When the matter came to the notice of the Kshetra Dharmasthala, Dharmadhikari Veerendra Heggade had arranged for prayers at the Manjunatheswara temple and also alerted the health authorities and government agencies.

The Nagarika Seva Samiti of Guruvainkere voluntary service organisation, led by the local MLA, Mr. V. Bangera, swung into action. The volunteers not only shifted the suspect cases to hospitals but also conducted a house-to-house survey in the affected villages.

The dharmadhikari threw open the doors of the TB hospital run by the temple trust at Laila near Ujire for accommodating the affected cases. The TB patients were temporarily vacated. Untiring efforts of the team of doctors headed by Dr. Shrishankar Bolar gave confidence to the people of the area.

The latest victim was a woman who had already lost her two children in the epidemic. She is survived by her husband and a minor daughter.

Two or three cases are being admitted to the Laila hospital every day as the affected people seem to prefer it to other hospitals.

Owing to the epidemic, the labourers, who have been prohibited from felling trees in the forests, are forced to find alternative means of livelihood.

Mr. Bangera urged the chief minister, Mr. Ramakrishna Hegde, for urgent relief measures. Drugs worth over Rs. 2 lakhs were rushed from Bangalore. A special health officer, one additional district health officer, four doctors and six health inspectors had now been posted in the area.

CSO: 5400/7081

'MONKEY DISEASE' CLAIMS LIVES IN INDIA

Rangoon THE WORKING PEOPLE'S DAILY in English 5 Feb 83 p 7

[Text]

New Delhi, 3 Feb—"Monkey disease"—a form of encephalitis—has killed 22 people and created panic in southern India among villagers who blame it on evil spirits, officials said Wednesday.

The illness is known throughout India as monkey disease because monkeys are frequently seen suffering its symptoms, including fever and convulsions, Dr N P Chawla said.

"Monkey disease is carried by mosquitos and is a variation of encephalitis," an often deadly viral infection that attacks the brain, Dr Chawla said in an interview. "Monkeys carry the disease which is then transmitted by mosquitos."

The virus infection has killed 22 people during the past month in the Karnataka State village of Belthangady, 950 miles (1,530 kilometres) south of New Delhi, state officials said. Most of the victims were impoverished woodcutters.

During the first 10 days of the outbreak, victims did not seek medical attention because of the belief that the illness is caused by cutting down trees, killing snakes and by evil spirits, officials said.

The deaths created panic, which has now lessened because medical care is combating the virus, officials said.

Wary villagers, however, were praying at local temples while health officials organized teams and geared up nearby hospitals to deal with the 168 patients hospitalized with symptoms of the disease.

NAB/UPI

CSO: 5400/4378

ENCEPHALITIS, MALARIA REAPPEAR IN BURDWAN

Calcutta THE STATESMAN in English 1 Feb 83 p 9

[Text] Durgapur, Jan 31--According to reports available with the district's Medical Authority, malaria and encephalitis, the latter of which claimed more than 600 lives last summer, are reappearing in Burdwan district. The Medical Authority is worried over the incidence of encephalitis in winter--till now, "it had broken out in the middle of summer."

Dr (Mrs) Reba Gupta, Chief Medical Officer (Health) Burdwan, said yesterday that encephalitis and malaria had now become endemic. Several new cases of encephalitis had been reported from the colliery areas of the Raniganj-Asansol belt. Steps sould be taken on the basis of the investigation report, she said.

Dr Gupta explained that the disease kept recurring because the mosquitoes which supposedly carried the germs had not been identified yet.

There were some practical difficulties in checking the spread of the suspected type of mosquitoes, as their breeding ground was water on paddy fields "containing chemical fertilizers." If the use of fertilizer was discouraged, agriculture would receive a setback and the move would be opposed.

Several cases of malaria had been reported and Dr Gupta said treating patients had become a problem. Miscreants, particularly in the Asansol belt, had taken away doors, windows and furniture from the health centres. Storage of medicine and other equipment and material was affected and the medical staff and sub-staff felt insecured, she said.

CSO: 5400/7080

DIARRHEA, CHOLERA EPIDEMICS CONTINUE TO TAKE TOLL

Jakarta KOMPAS in Indonesian 4 Dec 82 p 8

[Article: "250 Have Died in 7 Diarrhea Epidemics in West Nusa Tenggara Since 1979"]

[Text] Since 1979, West Nusa Tenggara has suffered 7 diarrhea and cholera epidemics and 250 fatalities as described in the following table:

District	Period	No Cases	No Deaths
Bima	Oct 79 - Feb 80	516	28
Sumbawa	Oct 79 - Jan 80	1287	46
West Lombok	Jan 80 - Jun 80	1156	16
Central Lombok	Jan 80 - Sep 80	1918	52
East Lombok	Jan 80 - Aug 80	5123	80
West Lombok	Mar 81 - Sep 81	803	9
Bima	Sep 81 - Jan 82	515	19

Dr. Juslis Katin of the West Nusa Tenggara regional health department's office for control and eradication of communicable diseases submitted this data to National (Rehidrasi) Seminar III in Semarang during the period 29 November to 2 December. He said that since the beginning of 1973 cholera and diarrhea have been chronic, unconquerable, and frequently fatal public health problems in West Nusa Tenggara; accounting for 18,588 cases and 1,315 deaths from 1973 through 1978.

Though the average case fatality rate has been lowered, the ability to act quickly in the event of an outbreak, according to Juslis, still leaves much to be desired. One still encounters extended epidemics which could have been stopped in a relatively short period of time if all elements of the health system were working well.

West Nusa Tenggara has long suffered from frequent, fatal cholera and diarrhea epidemics. Cholera and diarrhea are now considered routine diseases whose cure does not merit serious attention. This has resulted in an attitude of indifference among officials to the point that health measures to overcome the epidemic are not carried out according to prescribed guidance and methodology, Juslis declared. To overcome this situation, instruction must be provided to upgrade and refresh all those who are responsible for the epidemic control program. Before they are assigned to the field, new doctors should be given special background briefing on the region and the prevention and treatment of these diseases.

Juslis says that there are many factors that contribute to the development and spread of diarrhea and cholera in West Nusa Tenggara. These factors include substandard personal and environmental health conditions, social and cultural conditions, and suboptimal utilization of existing health facilities.

West Nusa Tenggara consists of Lombok Island with a population of 1,957,118 and a density of 426 persons per square kilometer, and Sumbawa Island with 776,698 souls and a density of 50 persons per square kilometer.

The educational level on both islands is almost the same; about 38.9 percent are illiterate, while the remainder have at least an elementary level education. Almost 95 percent of the people make their living by farming and the majority of these are farm laborers.

Juslis explained that only 24 percent of Lombok's population and 21 percent of those living on Sumbawa had potable water.

9127
CSO: 4213/28

INDONESIA

BRIEFS

GASTROENTERITIS IN CIREBON REGENCY--During this year's long drought, 11 subdistricts in Cirebon Regency, West Java, were stricken by a gastroenteritis epidemic which, as of 1 December claimed 10 of the 462 victims. On Saturday, 4 December, Dr Achmad Ali, an official of the Cirebon Regency Health Service, said the epidemic spread from mid-November to the beginning of December. During these 2 weeks, hundreds of people were affected most of them children. [Excerpt] [Jakarta SINAR HARPAN in Indonesian 8 Dec 82 p 3] 6804

GASTROENTERITIS IN MAJALENGKA REGENCY--A gastroenteritis epidemic has again struck two subdistricts of Majalengka Regency, West Java, claiming 6 of the 346 victims stricken in November. According to information obtained by SINAR HARAPAN from the Majalengka Regency Regional Government, the epidemic spread from about 5 November to early December. There were more cases this year than last year. In 1981, 7 of the 218 victims of the disease died. [Excerpt] [Jakarta SINAR HARPAN in Indonesian 13 Dec 82 p 3] 6804

GASTROENTERITIS IN EAST JAVA--By the end of this year's long drought gastroenteritis had struck the cities of Tuban, Gresik, Blitar, and Banyuwangi in East Java Province, claiming at least 21 of the 2,138 victims. R. Soehartono, chief of the information bureau of the East Java Province Regional Government, accompanied by his staff member Soekarsono, explained that from November [as published] to 8 December 283 cases had been recorded for Banyuwangi Regency with 5 deaths. Gresik had 9 deaths out of a total of 1,597 cases. Quoting a report compiled by the East Java Province Contagious Disease Control Subservice (P2M), 3 deaths for 179 gastroenteritis cases were recorded for Blitar Regency. The number of victims is still being compiled for Sapudi and Kangean Islands which are included in Sumenep Regency (east Madura Island). Victims are also being given medication (for prevention and control of gastroenteritis). Inter-island transportation is complicated so receipt of information about the number of gastroenteritis victims is delayed. On being questioned by SINAR HARAPAN, Dr Paulus Hartomo, chief of the Indoctrination and Control Section of the East Java Province Health Department Regional Office, explained that his side is always prepared. Three kinds of medication--infusions, tetracycline tablets and oralit salts--are available in the regions (at the city health services/DKK's) and are considered sufficient to handle the disease. The East Java Health Department Regional Office monitors the situation continually and is prepared to ration additional medications needed by the respective city health services in the East Java region. He reminded the spread of gastroenteritis climaxed from November to December. [Excerpts] [Jakarta SINAR HARAPAN in Indonesian 13 Dec 82 p 3] 6804

LEPROSY, CHOLERA CASES--According to the Health Department, there were 1,938 new leprosy cases in 1982-83, thereby increasing the number of new cases in the past 4 years to 15,609 while the number of leprosy cases throughout Indonesia was 125,625. The number of cholera cases in 1982-83 decreased when compared with previous years. In 1982 there were 31,010 cases with 903 deaths. The highest number of cholera cases was recorded in 1975--52,313 with 3,771 deaths. The higest number of deaths was recorded in 1972--7,004 out of 43,359 cases. [Text] [BK211638 Jakarta Domestic Service in Indonesian 1200 GMT 19 Feb 83]

GASTROENTERITIS IN SOUTH JAKARTA--Five persons have died and 119 are being treated in hospitals for gastroenteritis which has spread in Jakarta this week. The disease presumably was caused by changes in the weather as the seasons shifted from dry to rainy. Gastroenteritis is found frequently in the capital partcularly in areas with poor environmental conditions. Cases of the disease are treated almost daily, but this week's eruption of gastroenteritis in South Jakarta is considered to be a big one. /Excerpts/ /Jakarta KOMPAS in Indonesian 22 Dec 82 p 3/ 6804

GASTROENTERITIS IN GORONTALO REGENCY--A gastroenteritis epidemic has struck 5 subdistricts in Gorontalo Regency (North Sulawesi) causing 10 deaths. Dr M. D. Ilahude, chief of the Gorontalo Regency Health Service, said the number of cases in the 5 subdistricts is extraordinarily high for the Gorontalo Regency area. The disease, which began to spread in October, is believed to have originated outside the regency. /Excerpts/ /Jakarta MERDEKA in Indonesian 27 Dec 82 p 4/ 6804

MEASLES IN BANJARNEGARA REGENCY--At least 15 children under the age of 5 residing in Karangtumon Hamlet, Glempang Village, Mandiraja Subdistrict, Banjarnegara Regency, Central Java, died of measles because they were not brought to the public health center in time, while another 119 were diagnosed as having measles and were treated at the public health center and the Banjarnegara General Hospital, according to a SINAR HARAPAN source at the Banjarnegara Regency Health Service Office. The majority of those who succumbed to the disease, according to the source, did so because the local population knows little about hygiene. /Text/ /Jakarta SINAR HARAPAN in Indonesian 29 Dec 82 p 3/ 6804

CSO: 5400 4415

ISRAEL

DEGENERATIVE BONE DISEASE

Tel Aviv YEDI'OT AHARONOT in Hebrew 4 Jan 83 p 7

[Article by Israel Tomar: "Degenerative Bone Disease"]

[Text] A medicine unique in the world against degenerative bone disease, (osteoporosis) which plagues women after the passage of the reproductive cycle, and the elderly, is in an advanced development stage at the Jerusalem plant of "Teva-Pharmaceutical Industries."

The director-general of the firm, Eli Horowitz, at a press conference yesterday, discussed the establishment of a partnership with American investors to further this project, which constitutes a breakthrough in treating this disease, which is manifested "in a lack of calcium in the body" and results in brittle bones and great suffering.

Research concerning the medicine, whose scientific term is "Alfa D 3" will last three years. The 3 million dollar budget will be divided evenly between the bureau of the chief scientist in the Ministry of Industry and Commerce and 60 American partners.

The project will be operated by "Teva," and a large portion of it will be conducted in two departments of the Weizman Institute through "Yedah, Inc.," a research and development firm. Clinical experiments in research medicine already take place in 12 hospitals in Israel, England, and the U.S. The medicine is a natural compund which is usually supplied to the body through the kidneys and is of primary importance as a bone-building mechanism.

Professor Arye Lavie, the chief scientist of the Ministry of Commerce & Industry, noted that the project is a part of a series of projects financed through limited partnerships and which his office's participation in its financing will reach 300 million shekels this year. He added that a few other plans are under consideration, such as the development of immunization compounds for animals and people through a genetic engineering system; medicine for impotence, against gaining weight, for the regulation of heartbeat, for epilepsy, etc.

9944
CSO: 5400/4509

'INNOVATIVE TREATMENT' FOR LUNG CANCER INSTITUTED

Tel Aviv YEDI'OT AHARONOT in Hebrew 12 Dec 82 p 5

[Text] The lung department of "Meir" hospital in Kfar Saba has lately begun to use an innovative treatment, which constitutes the first experiment of its kind in Israel.

It refers to a form of treatment called "Broncho Albolar Labaz" which is the washing or rinsing of the bubble (or blister) in the lung. In this treatment, which is performed with great success in the department, the composition of the cells is examined in cases of diseases which cause inflammations and hardening of the lung tissues. So far the sick have been treated with cortisone, which was not always the best for them, whereas presently the most desirable treatment is related to the composition of the cells.

In the pulmonary department of "Meir" hospital there are 36 beds and 4 beds for pulmonary intensive care treatment.

Professor Broderman, the head of the department, expressed concern over the incidence of lung cancer cases. This year 500 new cases were revealed and of these 120 cases were in the Sharon region.

9944
CSO: 5400/4507

MASS RUBELLA VACCINATION PROPOSED

Tel Aviv YEDI'OT AHARONOT in Hebrew 15 Dec 82 p 23

[Article by Dvora Namir: "Mass Rubella Vaccination Proposed to Counter Future Epidemic"]

[Text] All the health authorities in the world are getting ready for the next rubella epidemic, which is expected according to the reporting of experts, to take place in 1985. This is one of the diseases which is considered to be a children's disease. However, it strikes women of childbearing age in particular. Since when a pregnant woman is infected with rubella, there is the danger that the fetus which she is carrying will be born defective or deformed.

During the last rubella outbreak in Israel in 1978-79, numerous abortions were performed on young women who had never been ill with rubella, but were infected with it during that critical period. These abortions were not always performed on the basis of convincing proof of the existence of rubella, or on the basis of blood tests, but on the basis of fear. When a light rash appeared, and there was a fear of rubella, the physicians were not opposed to terminating the pregnancy; none of them could promise the women that the fetus would be born healthy.

These days, research has been published in the United States, which was designed to study the extent of the effectiveness of the rubella vaccine administered to girls during puberty, 3-9 years after immunization. There were rumors to the effect that certain vaccines which had been used during the 70's were not one hundred percent effective inthe long run. Young women and girls who had been immunized with various types of vaccines were invited for an examination of the level of antibodies in the blood against rubella.

Presently the research findings have been published in the United States. It has been found that 36 percent of the young women and girls who had been vaccinated with the "Merc-Vax" vaccine 3-9 years ago are no longer immune against rubella. This finding was a danger signal and we decided to examine what the situation is in Israel...Maybe young Isralеis who had been immunized against rubella--received an inactive immunization and maybe in the next epidemic in 1985, when they will be pregnant, thev will be susceptible to the danger of infection. It is apparent, that in comparison to other countries, the situation in Israel is very encouraging.

According to Dr. Chaim Grichter, the head of the virus laboratories in the Ministry of Health, Israel, during the last decade and especially at the beginning of the 1970's, did not use the vaccine mentioned above (produced in the U.S.) since the local experts did not recommend it. "In Israel all young women were immunized with a vaccine of the "Wolcomb" company of England, which is a hundred percent effective. Only during the last two years did we begin to use the American vaccine," said Dr. Grichter.

Along with it, the general director of the Health Ministry, Professor Baruch Madam, initiated an epidemiological survery. The survey was conducted to examine the extent of immunity among young women who had been immunized between 1973-1979, and how to ensure immunity against rubella for all the young women of child-bearing age before the next epidemic. Because of the importance of the subject and the need of organizing for period of at least three years, the epidemiological director general found the resources for a program of immunity against rubella.

Under this program "mother-child" clinics, to which pregnant women and women with small children come, were established. So far, in a gradual and systematic way, 200,000 young women have been surveyed, those who have not been immunized against rubella and have not been sick with the disease yet have been localized. Every pregnant women who needed to be immunized has been registered, and a week after giving birth, has received an immunization. So far 80,000 women have been immunized after giving birth. "Regarding these large groups, we are sure that even if the child will come home from school with rubella--his mother will not be infected with the disease," said Dr. Chaim Grichter.

And what happened with all the young women who were immunized a few years ago? Was the English immunization safe and effective? It is apparent that the Ministry of Health considerations in choosing the vaccine were correct, in comparison to the situation in the U.S. In a survey conducted in Israel conerning young women who were immunized up to 1979, it was found that no young woman who was immunized later became ill with rubella. "Our impression is that the young women in Israel are in excellent shape. We estimate that young women and girls who have not been immunized are infected with rubella at the rate of only 12 percent in comparison to 18-80 percent in the United States," stated Dr. Chaim Grichter, who based his information on data provided at an international convention concerning rubella problems, which was held in Jerusalem.

The Ministry of Health is operating a national program under which all 12 to 14 year old girls are immunized against rubella. In the last 8 years almost all the girls have been immunized; in the meantime these girls have become soldiers or married women of child-bearing age.

Therefore, there is no fear that they will be sick with rubella even during the next apidemic. However, if there are still young women in Israel who have not been immunized against rubella, and they are unsure whether they were sick with it in their childhood, they should contact the health bureau in their area.

[illegible]
CSO: 5400/4507

INCREASED HEART DISEASE RATE AMONG WOMEN, YOUNG MEN

Tel Aviv YEDI'OT AHARONOT in Hebrew 22 Dec 82 p 4

[Article by Dvora Namir: "Increased Heart Disease Rate Among Young Men and Women"]

An increase in the number of heart attacks among young men aged less than 40 has been registered in Israel during the past five years. In addition to the heridity factor of the parents, or one of them who was afflicted with a heart disease at a young age, it has been determined that most men who were under intensive care had excess fat in their blood, or high blood pressure, excess weight and lack of physical activity. Ninety-five percent of them were smokers from an early age.

These details were presented yesterday at a press converence organized by the Ministry of Health and Cardiological Association in Israel in connection with "the heart day" which will be marked tomorrow throughout the country.

Dr. Ram Yishai, the head of the medical association, said that death due to a heart attack is only 23 percent of all deaths among Arabs, while among Jewish men, it is 48 percent. In Israel, for every man who dies of cancer, two men die of a heart attack. In many cases it could have been prevented by a low fat and low salt diet, exercise and the cessation of smoking.

Professor Henry Neufeld, the head of the International Cardiological Association, said that in the past it was thought that women were protected against heart attacks as long as they are still of child-bearing age, since "hormonal activity" protects them. Now it has become apparent that the rate of women of working age who come to the hospital with arteriosclerosis and heart attacks--increases steadily. This, because more and more women have penetrated into the "male" professions and have adopted the same life style, diet, and smoking habits as men.

Professor Yaacov Agmon, the head of the Israeli Cardiological Association, said that in the framework of the "Heart Day" all the health and medical authorities will cooperate with the media to bring to the public information as to how to guard against heart attacks--from broadcasts to schools and the heart institutes in the hospitals. The IDF will undertake an information campaign in all the camps--especially in the area of smoking whereas in the Red Mogen David stations they will undertake to measure the blood pressure of the public, in order to find "those who are in danger."

It is known that in Israel 50,000 people with heart ailments visit clinics for consultation, one percent of them (500 ailing) end up with open heart surgery.

Professor Baruch Modan, the director general of the Ministry of Health, announced yesterday that thanks to the raising of resources and amendments in the budget of manpower, heart surgery will be increased and the waiting lines will be shortened.

Professor Modan also said that under the initiative of the Minister of Health, a new law will be proposed to the Knesset, "the first aid law" which will obligate all the institutions and enterprises to provide resuscitation equipment and to train workers to give dirst aid treatment in cases of heart attacks, so that valuable time will be saved until the arrival of the ambulance and lives would be saved.

9944
CSO: 5400/4507

BRIEFS

ANTI-CANCER DRUG--This week the West German Health Ministry authorized for use the anti-cancer drug produced by the Israeli enterprise "Avik". This drug, "Abiflitin," (Isisplaninum)--the most important in a series of anti-cancer drugs developed by "Avik" and which is produced in a small number of factories throughout the world--has been already given permission for use in Israel, Holland, Chile and Thailand and is expected to be soon approved in Britain, Australia and South Africa. "Avik" has a large and diversified series of drugs for the treatment of cancer, which includes seven drugs from in-house development and an additional 3 drugs under permit from foreign know-how. This fact puts "Avik" among the three leading producers in the world in this area. As is well known, cancer treatment requires a combination of a number of drugs and different treatments. [Text] [Tel Aviv DAVAR in Hebrew 19 Dec 82 p 6]

DIABETES INCIDENCE--More than 10 percent of Israeli population has diabetes and this disease is in third place after heart disease and cancer among the causes of death in Israel. This was reported yesterday in Haifa, where a convention of the Israeli Diabetics Association is about to open. The head of the organizing committee of the convention, Dr. Yoram Cantor, said that diabetes is the number one cause of blindness in western socieites, and the second cause after auto accidents for the amputation of feet. During the convention new research will be presented which is based on the use of medicine from the plant extract-cirsium, which is grown in the Gallilee. The scientist expressed the hope that within five years it will be possible to transplant insulin determinant, which could be controlled from afar, and within ten years insulin determinant that will operate independently. [Text] [Tel Aviv DAVAR in Hebrew 26 Dec 82 p 4]

CSO: 5400/4507

MEXICO

BRIEF

SHIPBOARD TYPHOID CASES--Veracruz, Ver., 2 February--Health authorities doubled their vigilance in the port area when it was ascertained that there were six cases of typhoid among the sailors of the Greek ship, Mirina, docked at pier 6 of Puerto Mexico. The health authorities, headed by Dr Jaime Vives Ruiz, proceeded to examine the members of the crew of that vessel. It was found that the water that the sailors drank during their crossing was not drinking water, which could have caused the disease. [Text] by Alfonso Valencia [Mexico City EXCELSIOR in Spanish 3 Feb 83 p 25A
8255

CSO: 5400/2049

BRIEFS

GASTROENTERITIS, NOT CHOLERA--THERE is no outbreak of cholera in Enugu and its environs, competent medical authorities in the state capital have stated. In an interview with me in his office, the provost and Chief Medical Director of the University of Nigeria Teaching Hospital (UNTH), Enugu, Professor R. M. Anikwe, refuted the rumour that there was a cholera outbreak in Enugu, emphasising that as far as the UNTH was concerned, there was no reported case of cholera. At St. Martin's Hospital Awkunanaw, the Chief Medical Director, Dr. H. I. Uzoewulu also denied any reported case of cholera in his hospital. Instead Dr Uzoewulu said there were cases of an epidemic of a disease known as "gastro-enterities" which has affected a number of children in recent times. Dr. Uzoewulu further contended that if there was cholera epidemic it would also affect adults and would not be restricted to children alone. He said that the gastro enterities was caused by the prolonged harmattan which dried up the germs and blow them up in their air adding that as soon as rain falls the edpidemic would subside The Anambra State Commissioner for Health, Dr Edwin Onwudiwe was not available for comments but competent sources in his office disclosed that the incidence of gastro-enterities has been occurring from December to February for several years. [Christian Ajuigwe] [Excerpts] [Enugu DAILY STAR in English 5 Feb 83 p 16]

CSO: 5400/152

AIDS DISEASE HAS REACHED NATION

Oslo DAGBLADET in Norwegian 17 Feb 83 p 20

[Article: "Deadly Illness in Norway"]

> [Text] Oslo--Health authorities have discussed the so-called AID syndrome, a new life-threatening disease which has been recognized among homosexuals in the United States for several years. The background is that a person in Norway has contracted the disease.

Acquired Immune Deficiency Syndrome (AIDS) means that the body's immunity defenses are weakened to the point that apparently harmless infections can be life-threatening.

Participants at the recent meeting included representatives of the Directorate of Health, The National Institute of Public Health, the bloodbank at Ulleval Hospital and Kim Friele of the Association of 1948.

Doctor Helge Heisto at Ulleval Hospital told Norsk Telegrambyra that AIDS is especially troublesome because so little is known about it. "Based on blood tests from patients it has been established that there have been changes in the white blood corpuscles. With this condition the body's immunity defenses are severely weakened and the patient can succumb to diseases which under normal circumstances would be harmless. During recent years AIDS has been proved in several hundred persons in the United States, mostly homosexuals, and there has been a mortality rate of over 40 percent," said Heisto. He did not wish to give out information about the Norwegian who reportedly has contracted the disease.

9287
CSO: 5400/2519

ENCOURAGEMENT OF COUNTRY'S OWN DRUG MANUFACTURING EMPHASIZED

Karachi DAWN in English 4 Feb 83 p 15

[Editorial: "Pharmaceuticals"]

[Text] IN ITS protracted quest for the National Drug Research Centre, the Federal Health Ministry is now reported to be contemplating "drastic action" against pharmaceutical companies which have not contributed their prescribed share of payment towards the development of drug research facilities. All pharmaceutical companies had agreed to pay one per cent of their annual turnover for the proposed Centre. The latest deadline for clearing the dues was January 31 and it is reported that 177 out of 227 pharmaceutical companies in the country have so far paid Rs. 97 lakh towards DRC funds. Apart from the "drastic action" expected against the defaulting 50 companies, the Ministry is also planning to check the accounts of all the companies. This seems to have become necessary because the share paid so far is less than the amount expected from the 177 companies.

Irrespective of how fruitful the Ministry of Health's campaign to mobilise sufficient funds for the establishment of the National Drug Research Centre will be, the realisation that we do not have a proper drug research institution and are also not likely to have one in the near future is in itself very disturbing. There has also been a serious lack of research facilities in allied fields. It is the result of such foundational weaknesses that we have not been able to develop an adequate indigenous pharmaceutical manufacturing capacity.

This has left us virtually a captive market of the multinational pharmaceutical companies. Obviously, research directed towards promoting indigenous production of a wide range of medicines will contribute to the goal of self-sufficiency in this field. One would also expect the Government to provide funds from its own resources and not depend entirely on contributions from the pharmaceutical companies and assistance from WHO, which, too, has been sought.

The National Drug Research Centre should, in fact, be part of a well devised plan to build a medical care system geared to our specific needs and potential.

As it is, about twenty multinationals have been able to dominate the scene so suffocatingly that the basic national drug manufacturing capacity has remained critically underdeveloped. This is not in our national interest. We have had occasions to express our reservations about giving a free rein to the multinationals whose operations are based on factors and considerations that have little to do with this country's basic needs and interests in the drug manufacturing sector. The drug scene was brought into focus recently because of the increase in prices of essential and common drugs by from 20 to 50 per cent. This was attributed to depreciation in the value of our currency and the import surcharge. But an incisive study of the pricing policies of the multinationals would also bring out their lack of interest in the manufacture of basic drugs and raw materials in the country. Through bulk import of basic and semi-processed drugs from their principals, they have become a processing rather than a manufacturing industry. They have also been blamed for overpricing their imports and not without reason. It is obvious that they would not be interested in promoting the indigenous chemical industry (to provide basic drugs) or supporting the growth of local pharmaceutical companies able to compete with them in the market. Major institutional reforms and concrete action on the part of the Government will be necessary to change this situation. Of foremost importance is a clear-cut policy which must lay down the basic objectives in the field of drug manufacturing, requiring all pharmaceutical firms to conform to these. Such a policy must also require the multinationals to devote a minimum level of their manufacturing capacity to the production of basic drugs as a condition for being allowed to carry on their operations in the country. Within such a policy framework the establishment of the proposed National Drug Research Centre will doubtless be a vital step. Ultimately, conditions must be created in which the indigenous pharmaceutical companies can hold their own in competition with the multinationals and meet the great bulk of the national needs.

CSO: 5400/4712

OPERATION THEATER BUILT WITH DUBAI AID

Karachi DAWN in English 8 Feb 83 p 10

[Text]

BAHAWALPUR, Feb 7: The Ruler of Dubai, Sh. Rashid Bin Saeed Al Maktoom, has added a big operation theatre complex to the B.V. Hospital, Bahawalpur, at an expenditure of Rs 4.7 crore. His son, who is also the Finance Minster of United Arab Emirates, Sheikh Humdan bin Rashid Al-Maktoom, handed over the Complex to the Punjab Health Minister, Mr Hamid Nasir Chatha, at a simple, but impressive, ceremony at Bahawalpur.

The airconditioned Operation Theatre Complex, which is equipped with modern machines and closed T.V. circuit, comprises of eight operation theatres. The foundation stone of the Comlex was laid by Sheikh Rashid bin Saeed al-Maktoom on Jan 11, 1978.

Taking over the Complex, the Provincial Health Minister thanked the Dubai Ruler and said that it exhibited his love for the people of Pakistan and his interest in their welfare.

He noted that the United Arab Emirates is an Islamic country having close religious and cultural relations with Pakistan. He thanked U.A.E. for taking keen interest in the welfare of this region. The Operation Theatre Complex will also serve to train the students and teachers of the Quaid-i-Azam Medical College.

The Minister said that Bahawalpur has distinctive importance for its Islamic character and this area has been the embodiment of Islamic traditions and vlaues since the distant past.

The Health Minister thanked the Ruler of Dubai on behalf of the Government of Pakistan and the Government of the Punjab and the people of Pakistan and Bahawalpur for his generous gesture and for the participation of Sheikh Hamdan bin Rashid al Maktoom in the ceremony.—PPI

CSO: 5400/4712

BRIEFS

NEW HOSPITALS TO OPEN--Four new hospitals, being built in Lyari, Korangi, Saudabad and Orangi, would start functioning from June next, Provincial Health and Information Minister Syed Ahad Yusuf said yesterday. Speaking at a function held at Liaquatabad, he said health facilities would improve in Karachi when the new hospitals started working. He said the people of Liaquatabad had always raised their voice for truth and taken a leading part in the Nizam-i-Mustafa Movement. He urged the people to beware of those who were creating hindrances in the way of Islamisation. Speaking on the occasion, Hafiz Mohammad Taqi, Secretary-General, Tehrik-i-Istikam-i-Pakistan and member of the Federal Council, called for more such facilities for the people of Liaquatabad.--APP [Text] [Karachi DAWN in English 5 Feb 83 p 8]

CSO: 5400/4712

PURPOSE, IMPORTANCE OF SURVEILLANCE POINTS DISCUSSED

Beijing ZONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 257-260

[Article by Du Shaoyong [2659 4801 7167] and He Guanqing [0149 6034 3237] of 13-Province-City Disease Surveillance Cooperative Group: "Preliminary Report of Establishing a Long-Standing Surveillance Point for Diseases"]

[Text] For the purpose of implementing the stipulation of Article No 6 of the 1978 regulation for medical development of the State, "comprehensive investigation and long-term observation of the principle of distribution, influential factors, and prophylactic measures of major diseases in key areas of the country" and of assisting the Ministry of Public Health to carry out the four tasks of surveillance, monitor, research, and training as stipulated in the "National Regulations Regarding the Work of Public Health and Epidemic Prevention Stations" and perform them in a higher scientific standard, the Office of Epidemiology of the Research Institute of Epidemiology Chinese Academy of Medical Sciences, with the guidance and support of the Academy and the Institute, took the lead in 1980 to cooperate with the Public Health and Epidemic Prevention Stations of 13 provinces and cities to establish jointly 30 long-term disease surveillance points in cities and rural areas.

Objective and Significance

There are two categories of work in disease control: One is the strategy and measure of disease control and the other is disease surveillance. Disease surveillance means to observe the distribution and movement of diseases in one locality and other places and to provide continuous scientific data to form the basis for formulating and revising the strategy and measure for preventing all types of diseases. Systematic surveillance of diseases began in the 1950's in the United States with respect to poliomyelitis, influenza, hepatitis, etc. The problem of international and national surveillance was discussed at the 21st World Public Health Conference in 1968 and it was recognized that the surveillance of contagious diseases is a study of the total mechanism and momentum of outbreaks and prevalence of contagious diseases. The World Health Organization supported some countries and regions to establish disease surveillance centers and examination centers to carry out the systematic monitoring of disease. The realm of surveillance was also expanded from infectious diseases to noninfectious diseases.[1] Although various levels of public health and epidemic prevention stations in China had carried out some disease surveillance work in the past, the work has not been systematic. After the subject was proposed, the problem was to make up the deficiency of the past in terms of long-range and systematic surveillance of diseases so as to proceed with scientific evaluation.

Although disease surveillance work is very important, there is yet no sufficient condition to develop it nationwide. It is, therefore, necessary to begin with test points and with legally defined contagious diseases, to gather, arrange, and analyze the epidemic momentum and factors and to evaluate the results of prevention before gradually extending it to other health endangering diseases. With each surveillance point, there may also be long-range comprehensive epidemiological studies on the mutual influences among the various diseases and factors. This type of long-range comprehensive study may become an imporrant direction of future development of epidemiological research. From these surveillance points, the scientific standard of epidemic prevention may become an important direction of future development of epidemiological research. From these surveillance points, the scientific standard of epidemic prevention may be gradually extended to a county, a city, and even the entire county enabling it to be modernized. Through discussion and cooperation, the various surveillance points may formulate unified survey designs to launch some important epidemiological studies of all the surveillance points or still greater areas. These surveillance points are themselves experimental points. It is also possible to establish experimental and control areas with each point to make them meaningful control areas or reference areas for the study of subjects requiring a larger realm of observation. Meanwhile, these surveillance points will also serve as demonstration points for improving the quality of the disease control work.

Process of Establishing Surveillance Points

The Office of Epidemiology of Research Institute of Epidemiology Chinese Academy of Medical Sciences proposed in 1978 the establishment of long-term disease surveillance points and obtained the support of the leadership of all levels. In 1979, the first test point was set up in the Dongcheng district of Beijing City to collect data on the district and to proceed with long-range observation of its nearly 100,000 inhabitants. Within this large point, two small observation points centering around two hospitals were used as health-protection sections for more intensive surveillance and to obtain some first hand typical information. In late 1979, the experience of establishing the Dongchenging Surveillance Point was introduced at the National Society of Epidemiology Conference and the National Symposium of Public Health and Epidemic Prevention Work. Negotiations with some provincial and municipal epidemic prevention stations followed to solicit opinions and to ask for voluntary request for consideration of becoming a point. The epidemic prevention stations of 15 provinces and cities willingly registered. Early in 1980, we proposed a draft plan for the development of long-range disease surveillance and research to explain, in some detail, the objective, the scope, the target, and the requirement of the research.

Table: National Long-Term Surveillance Points of Diseases (1980)

Province City Autonomous Region	Urban Points	Rural Points
Beijing	1. Dongcheng Prefecture (110,000)	
Tianjin	2. Heping Prefecture (54,476)	1. Jinghai County (20,321)
	3. Hongqiao Prefecture (66,000)	
	4. Tanggu Prefecture (41,249)	
Nei Monggol	5. Hohhot Hui Autonomous District (136,766)	2. Xi League Ana Banner (about 50,000)
Liaoning	6. Shenyang Heping District (131,626)	3. Xinchengzi (100,376)
		4. Jin County (105,127)
Jilin	7. Changchun Nanguan District (54,000)	5. Nongan County (60,133)
		6. Dehui County (65,184)
Heilongjiang	8. Harbin City Daowai District (99,978)	7. Suihua County (75,310)
Jiangsu	9. Nanjing Guluo District (305,417)	8. Jinhu County (309,010)
Shandong	10. Qingdao Bei District (112,626)	9. Mouping County (91,530)
	11. Jinan Lixia District (121,568)	10. Jining County (120,129)
Hubei	12. Wuhan Jiangan District (95,523)	
Guangdong	13. Guangzhou Yuexiu District (477,483)	11. Taishan County (90,100)
	14. Jiangmen City (101,933)	
Guangxi		12. Wuming County (about 61,000)
		13. Bingyang County (about 61,000)
Sichuan		14. Dazu County (20,635)
		15. Changqing County (102,044)
Yunnan		16. Kunming Guandu District (265,655)
Total	14 points (1,908,645 persons)	16 points (1,597,554 persons)

Note: Population figures in parenthesis

Afterwards, a 15 province cities disease surveillance conference was held to discuss the plan, which was later approved by the Ministry of Public Health and dispatched to the various provinces and cities. These provinces and cities made selection of one or more cities and rural villages to form the surveillance point, on the basis of local characteristics. The population of an urban point was generally about 100,000 and an area of all types of inhabitants is usually chosen. Either a county or a commune with more than 100,000 inhabitants was used as a unit for choosing rural points. Moreover, areas of such minority nationalities as Tong and Meng were also taken into consideration. By early 1981, aside from Gansu and Fujian where no point was chosen because of difficulties, surveillance points were basically established in the remaining 13 provinces and cities.

The standard for the establishment of a surveillance point is as follows: (1) The surveillance work is included in the daily agenda of the local public health department; (2) The surveillance point and its scope have been determined; (3) Special persons or person (full or part time) are assigned to be responsible for this work; (4) The system and method of records keeping, statistics, and information gathering are established; (5) The surveillance work has been preliminarily launched. The provinces and cities where surveillance points have been established include Beijing, Tianjin, Nei Meng, Liaoning, Jilin, Heilongjiang, Jiangsu, Shandong, Hubei, Guangdong, Guangxi, Sichuan, and Yunnan (in accordance with the sequential order of the regulated standard of the State council) provinces, cities, or autonomous regions, to total 14 urban points and 16 rural points, to involve a total population of 3,461,209 persons. (Table 1)

Contents of 1980 Surveillance

The work in 1980 was primarily to establish the surveillance points and to begin the surveillance of legally defined contagious diseases. The contents were as follows:

I. Establishing and Perfecting a System of Reporting Epidemics: A card file was established in every surveillance point to keep reports of epidemics. In 11 urban and rural points an epidemic registration book system was also introduced and on the basis of needs of certain diseases, a system of visiting the family of the sick and keeping a record of the visit by the local medical staff was also established. In the epidemic record file, it was required to enter the age, the sex, and the occupation of the patient, and as much as possible the correct diagnosis. When conditions permitted, some units also began to proceed with chemical examinations. In 1980, Daowai point of Harbin, Gulou point of Nanjing, Hui Nationality point of Nei Meng, Yuexiu point of Guangdong, Jiangmen City point, Dongcheng point of Beijing, North District point of Qingdao City were the urban surveillance points and Xinchengzi point of Shenyang, Nongan County point of Jilin, Jinghai County point of Tianjin, Jinhu County point of Jiangsu, and Mouping County point and Jining County point of Shandong were the rural surveillance points keeping records of chemical analyses results.

II. Survey of Unreported Epidemics: Incidence of outbreaks is an important index for monitoring the momentum and trend of diseases and is also indispensable for assessing the results of prevention and control. The reliability and comparability of the calculated incidence for different periods and different places depend upon the uniformity of the diagnostic standards of the various times and places and the completeness of the cases reported.

There are two kinds of missing reports for the survey: Missing reports of hospitals and missing reports of inhabitants. From the missing reports surveys, a rate of missing reports may be calculated to correct the reported incidence so that it may correctly reflect the actual level of outbreak in a given place at a given time.

In the past, in various places of China, the incidence of diseases calculated from reports of epidemics were seldom corrected with a rate of missing reports; therefore, it is not suitable as a scientific basis for serious analysis. In order to overcome this shortcoming, all the surveillance points were required in 1980 to carry out missing report surveys when they made reports of epidemics. The 12 points of the 8 provinces and cities of Jiangsu, Shandong, Sichuan, Jilin, Beijing, Nei Meng, Liaoning, and Tianjin performed the missing report survey work for 11 infectious diseases of dysentery, hepatitis, measles, scarlet fever, etc. The rate of missing reports totaled 29.14 percent: 68.02 percent for rural villages and 26.05 for cities. The four points in Jiangsu, Sichuan, and Jilin Provinces were the only ones where surveys of inhabitants' missing reports were carried out.

III. Registration and Survey of Epidemic Outbreaks: Epidemic outbreaks (not limiting to legally defined infectious diseases) form an important index to measure disease epidemics of an area and the quality of preventive and control methods. In 1980, all surveillance points were required to perform this work. Not only that outbreaks within the surveillance point must be reported, all outbreaks of the province or city should also be reported as much as possible. According to incomplete statistics of the data of some areas of the 8 provinces and cities of Jiangsu, Liaoning, Shandong, Guangxi, Nei Meng, Jilin, Beijing, and Tianjin, there were 96 outbreaks, totaling 109,198 cases; of these 41 outbreaks were food poisoning, amounting to 43 percent of the total.

IV. Registration of Deaths: In 1980, 17 urban and rural surveillance points carried out the work of death reports and analyses of causes.

V. Establishing a Prophylactic Inoculation Card File and Prophylactic Vaccination Record System: In 1980, all the surveillance points basically performed this item.

VI. Surveillance of Immunization Level of Inhabitants: In 1980, the work was mainly limited to determining the immune levels of diphtheria and measles of inhabitants. About 100 persons of the three age-groups of 2-3, 6-7, and 14-15 were tested. This item was performed in 6 urban points and 6 rural points.

In a word, the program in 1980 was mainly establishing surveillance points throughout the country. Although 30 urban and rural points were established in 1980, the speed and the depth of performance of these points were established in 1980, the speed and the depth of performance of these points were very uneven because of the difference in foundation and condition of the public health units in various places and the difference in understanding disease surveillance of the medical staff and leadership. The contents and results of the program in 1980 are detailed in another paper entitled "1980 Report of Surveillance of Infectious Diseases."[3]

1981 Work Plan

A 16-Provinces-and-Cities (Hebei Province actively chose to participate) Surveillance Points Disease Surveillance Conference was called by the Bureau of Epidemic Prevention of Ministry of Public Health and held in Beijing on 16-25 March 1981. It was mainly for summarizing the progress of the disease surveillance work in 1980 and formulating the 1981 disease surveillance and research plan and its related methods and standards.

The 1981 work emphasizes mainly stabilizing the surveillance points established in 1980 and improving them. On this foundation and on the basis of conditions of the various places, the scope of surveillance is to be expanded in keeping with the capability. The program is to include the following three aspects:

I. Stabilizing the 1980 Surveillance Work of 1980: The major contents are: (1) The surveillance points established in 1980 should, in 1981, perfect the system of registration and statistics still further. Using a unified format, six registers of birth, death, infectious diseases, condition of outbreak, prophylactic inoculation, and abnormal reaction of prophylactic inoculation, should be established.

In gradual steps, a system should be established for the collection, preservation, analysis, and publication of basic public health data. The Ministry of Public Health has approved six types of annals to be maintained as records by the National Bureau of Statistics.

(2) Beginning in 1981, the various surveillance points should proceed with missing report surveys of inhabitants and formulate methods of carrying out such surveillance.

(3) Death registration and analysis of cause of death: The surveillance points will be required to make surveys of missing reports of death, verify the cause of death, and specify the unit and subunit where the diagnosis is made.

(II) Launch the management of registration of the chronically ill: In 1981, this work of the surveillance points will still mainly be limited to the 24 legally defined infectious diseases and epidemic outbreaks. On this basis, the management of registration of chronic diseases will be gradually developed first to chronic hepatitis and chronic dysentery in regions or units where the conditions permit to look for methods of managing the following:

(1) Register changes of these chronic diseases in tables.

(2) Establish individual case histories.

(3) Carry out follow-up visits every half or 1 year to console, to update the follow-up records, to provide guidance for recuperation and care measures, and to offer suitable treatment according to the specific condition of the locality.

(4) Make a summarization at the end of every year.

(III) Launch special subject research. The principle for proposing the special subjects is:

(1) Consider the needs of current work of epidemic prevention, and choose a subject that can be carried out by all surveillance points or the majority of them.

(2) As much as possible the research subject should be linked with the daily prophylactic work to improve the quality.

(3) Problems should be resolved in conjunction with the prophylactic work but consideration should also be given to the problems of current concern among the medical researchers.

The following two subjects of research are proposed for 1981:

(1) Research on the incidence and distribution of aftereffects of poliomyelitis: This is a study of current conditions. Through a study of the current incidence of aftereffects (the irreversible ones) the incidence of aftereffects before and after the application of polio-vaccine may be understood for evaluating the effects of the vaccine.

(2) Research on the transformation of viral hepatitis: This is progressive research. Through long-term observation, the frequency of transference from acute hepatitis to chronic hepatitis may be understood and the relationship among chronic hepatitis, sclerosis of the liver, and liver cancer may be investigated.

Based upon the aforementioned plan, 30 urban and rural surveillance points performed a great deal of work in 1981, and the work was generally improved to produce better results. The population brought under surveillance in 1981 totaled more than 4 million; 17 types of infectious diseases were reported; diseases of the most numerous reported cases were dysentery and hepatitis. From the 4 million urban and rural inhabitants, the condition of missing reports of some major infectious diseases were surveyed to produce a rate of missing reports of 31.22 percent in rural villages and 37.72 percent in cities. Measles and diphtheria serum antibody determination was carried out among 8,794 urban and rural inhabitants; the total serum measles antibody positive rate was found to be 84.68 percent, and 71.56 percent for diphtheria, demonstrating that there are a definite number of measles and diphtheria sensitive inhabitants. This is perhaps the reason for the frequent localized outbreaks of these 2 diseases.

A survey of current aftereffects of poliomyelitis were surveyed among 3,521,373 persons under 30 years of age in 1981 to disclose 4,241 persons suffering from polio-aftereffects, an incidence of 1.20 percent. Of these cases of aftereffects, 98 percent had not been vaccinated, had not completed the vaccination procedure or had an uncertain history of vaccination, illustrating that the major reason is not having been vaccinated for poliomyelitis. (The above contents of work will be included in a special subject report.)

Judging from the work of the past 2 years, as disease surveillance continues uninterrupted to carry out advanced observation and long-term accumulation of scientific data, scientific bases may be provided for investigating the occurrence, development, and pathogenesis of diseases and to formulate strategies for their control.

(IV) Existing problems and methods of resolving them are discussed in the paper, "Disease Surveillance" in ZHONGHUA LIUXINGBINGXUE ZAZHI No 3, 1981 p 212.

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RELATIONSHIP BETWEEN SALMONELLA, ENVIRONMENT DISCUSSED

Beijing ZONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 291-293

[Article by Luo Xingzu [5012 5281 4371] and Wan Lubo [8001 4845 3134] of Beijing City Xicheng District Public Health and Epidemic Prevention Station: "Type Distribution of 1,651 Strains of Salmonella and Analysis of Environmental Pollution Versus Occurrence of Salmonellosis Among Human Population"]

[Text] For the purpose of promoting and emphasizing wastewater management in public health and epidemic prevention work, the authors proceeded to carry out tests to determine the epidemiological relationship between environmental pollution and human infection, from August 1975 to November 1980. The following is a report of the study:

Sources of Specimens

1. Wastewater: Wastewater of 4 fixed observation points and the wastewater of some hospitals in the Xicheng District.

2. Vegetables: Obtained from producers and markets supplying Xicheng District.

3. Flies: Obtained from the 6 environments of vegetable markets, restaurants, pig sties, hospitals, flower petals, and residential areas.

4. Humans: Mainly feces of healthy persons and some patients of chronic and acute diarrhea.

Results

A total of 679 specimens of wastewater were examined to produce 588 positive specimens, a positive rate of 86.6 percent: 274 specimens of radish to produce 114 positive specimens, a 41.6 percent positive rate; 167 specimens of cucumber, 12 positive specimens, a 7.8 percent positive rate; 157 specimens of tomato, only 1 positive specimen, a 0.6 percent positive rate. Extracorporal germ-carrying condition of 50 fly specimens was also examined to produce only 3 positive specimens, a positive rate of 6 percent.

During this period, 252 strains of Salmonella were also isolated from humans; of these 53 strains were isolated from diarrhea patients of the outpatient departments of intestinal diseases.

Judging from the distribution of the types, the S. derby types rated the highest among all 42 types; S. meleagridis was the second and S. typhimurium var. copenhagen the third. The remaining types of Salmonella were in the following sequence: S. agona, S. cambridge, S. anatum, S. london, S. typhi, S. paratyphi B, S. paratyphi B var. odense (see attached table).

Of the 42 types, the following 8 types were first reported in China or had never been reported:

1. S. eastbourne; 2. S. adelaide; 3. S. chailey; 4. S. agona; 5. S. ituri;
6. S. casablanca; 7. S. stratford; 8. S. wandsworth.

Of the above 8 types, Nos 1-5 have been introduced by Wang Desheng [3769 1795 3932][1]; the No 8 has been reported by the authors of this paper[2]; Nos 6 and 7 have not been reported in China.

Discussion

Judging from the Salmonella distribution condition of the different specimens and its relationship among groups of people: Of the 42 types, 39 types were found in wastewater; 27 types from humans; and 24 types from vegetables. There were 21 types common in humans and vegetables; 21 types common in humans, wastewater and vegetables. The strains of the types common in all three kinds of specimens (171 strains) i.e., S. typhi and S. paratyphi B, amounted to 10.3 percent of the total number of strains obtained. In order to investigate the epidemiological relationship between hospital wastewater and human infection further, intestinal pathogen determination was carried out of the wastewater of the 15 hospitals of the district in September 1979. Results revealed that the Salmonella positive rate of those hospitals having in-hospital beds was as high as 95 percent while the positive rate of hospitals with no in-hospital units was only 40 percent and the number of strains was fewer also, only about one-seventh of the number of the former hospitals. Humans are the only host of S. typhi; therefore, the wastewater must be infected by the S. typhi of humans. The humans infect the wastewater; the wastewater in turn infects the vegetables; when the humans eat the vegetables they are again infected by them. When radishes, etc. are in season, cases of intestinal infectious diseases such as typhoid often increase. Strains of the types that ranked the third among the number of strains isolated this time, namely S. typhimurium and its variety copenhagen, amounted to 8.4 percent (totaling 140 strains). They were not only common pathogens of food poisoning; in recent years, there also had been localized epidemics of these among hospitalized infants of some hospitals seriously endangering the sick. Moreover, many types of Salmonella can cause food poisoning, for example, S. derby, S. london, S. bovis morbificans, S. anatum, S. newport, and S. meleagridis. These are common pathogens of food poisoning among the Salmonella system; therefore, their epidemiological significance should not be igrored. With regard to the other Salmonellae, during the etiological survey of 610 cases of diarrhea patients carried out by the authors in 1978-79,[3] it was discovered that 24 cases of the 91 positive cases were of Salmonella infection (4.26 percent of the total cases examined). The Salmonella types found were: S. typhimurium, S. derby, S. thompson, S. infantis, S. manhattan, S. meleagridis, S. london, and S. anatum. These facts proved the epidemiological significance of these types among diarrhea patients. Cases of

The Distribution of 1,661 Strains of Salmonella

Group	Type	Antigen structure	Humans	Radish	Cucumber	Tomato	Fly	Wastewater	Other	No. of strains	Percent
			External environmental specimens							Total	
B	S. derby	4,12:f,g:-	50	38	7	1	0	213	0	309	18.60
[illegible]	S. meleagridis	3,10:e,h:1,w	18	10	0	0	1	116	0	145	8.73
B	S. typhimurium	1,4,5,12:i:1,2	17	33	0	0	0	86	0	140	8.43
B	S. typhimurium var. copenhagen	1,4,12:i:1,2	1	0	0	0	0	3	0		
[illegible]	S. agona	4,12:f,g,s:-	25	21	1	0	0	81	0	118	7.10
[illegible]	S. cambridge	3,15:e,h:1,w	7	7	2	0	0	93	0	109	6.56
[illegible]	S. anatum	3,10:e,h:1,6	24	16	0	0	0	57	1	98	5.90
[illegible]	S. london	3,10:l,v:1,6	28	8	1	0	0	57	0	94	5.70
[illegible]	S. typhi	9,12,vi:d:-	17	3	0	0	0	57	0	87	5.24
B	S. paratyphi B	1,4,5,12:b:1,2	5	11	0	0	0	60	0	84	5.06
B	S. paratyphi B. var.odense	1,4,12:b;1,2	0	0	0	0	0	8	0		
[illegible]	S. infantis	6,7:r:1,5	16	27	0	0	0	35	2	80	4.81
[illegible]	S. manhattan	6,8:d:1,5	17	7	0	0	0	53	0	77	4.64
[illegible]	S. thompson	6,7:k:1,5	6	1	0	0	2	32	0	62	3.73
	S. thompson var berlin	6,7:-:1,5	8	3	0	0	0	10	0		
[illegible]	S. taksony	1,3,19:i:z_6	6	2	0	0	0	47	3	58	3.49
[illegible]	S. senftenberg	1,3,19:g,s,t:-	1	0	1	0	0	32	0	34	2.05
[illegible]	S. [illegible]turi	4,12:Z_{10}:1,5	1	15	0	0	0	10	0	26	1.57
	S. tennessee	6,7:Z_{29}:-	1	3	0	0	0	19	0	23	1.38
	S. potsdam	6,7:l,v,e,n,Z_{15}	3	1	1	0	0	14	0	19	1.14
	S. newport	6,8:e,h:1,2	1	1	0	0	0	17	0	19	1.14
	S. 6,8:-:-		1	8	0	0	0	6	0	15	0.90
	S. bovis morbificans	6,8:r:15	1	1	0	0	0	10	0	12	0.72
[illegible]	S. westbourne	9,12:e,h:1,5	0	0	0	0	0	7	0	7	0.42
[illegible]	S. [illegible]:-:-		0	0	0	0	0	6	0	6	0.36
	S. [illegible]ley	6,8:$Z_{[illegible]}$,Z_{23}:e,n,Z_{15}	1	0	0	0	0	5	0	6	0.36
[illegible]	S. aberdeen	11:i:1,2	0	2	0	0	0	4	0	6	0.36
[illegible]	S. stanley	4,5,12:d:1,2	3	0	0	0	0	2	0	5	0.30
	S. 4,5,12:-:-		0	0	0	0	0	5	0	5	0.30
	S. kentucky	8,20:i:Z_6	2	0	0	0	0	1	0	3	0.18
	S. moscow	9,12:g,q:-	0	0	0	0	0	2	0	2	0.12
	S. 4,12:-:-		0	1	0	0	0	1	0	2	0.12
	S. reading	4,12:e,h:1,5	0	0	0	0	0	1	0	1	0.06
	S. [illegible]		0	0	0	0	0	1	0	1	0.06
	S. [illegible]		[illegible]	[illegible]	0	0	0	1	[illegible]	1	[illegible]
	S. enteritidis	9,12:gm:-	1	0	0	0	0	0	0	1	0.06
	S. adelaide	35:f,g:-	0	0	1	0	0	0	0	1	0.06
	S. wandsworth	39:b:1,2	1	0	0	0	0	0	0	1	0.06
[illegible]	S. casablanca	45:k:1,7	0	0	0	0	0	1	0	1	0.06
[illegible]	S. newington	3,15:e,h:1,6	0	0	0	0	0	1	0	1	0.06
	S. 3,10:-:-		0	0	0	0	0	1	0	1	0.06
E	S. stratford	1,3,19:i:1,2	0	0	0	0	0	1	0	1	0.06
	TOTAL		252	219	14	1	3	1,1[illegible]	6	1,661	[illegible]

human Salmonella infection increase due to severe pollution of food and the environment; therefore, a great deal of attention should be given to the extremely close relationship of humans, food and the environment.

(For the survey, Ju Zhongming [2763 0022 2494] and Li Youzhen [2621 0147 3791] performed a great deal of work in collecting wastewater and vegetable specimens. The authors hereby express their thanks.)

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DISTRIBUTION, CONTROL OF AEDES AEGYPTI

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 6, Dec 82 pp 354-356

[Article by the Coordinating Group on the Studies of A. albopictus and A. aegypti and Their Control: "Distribution of Aedes aegypti in China and Its Comprehensive Control"]

[Text] Aedes aegypti is the major vector of dengue fever, kenya fever and urban yellow fever. It is one of the most dangerous mosquitoes commonly recognized in the world. In 1981, there were epidemics of dengue fever on Hainan Island and regions along the continental coast. They were transmitted mainly by A. aegypti. A clarification of the geographical distribution of A. aegypti in China and experiences in its control have practical significance in promoting the prevention and control of dengue fever; therefore, from the summer of 1980 to the summer of 1981, the member organizations of the Coordinating Group, Guangdong Provincial Epidemic Prevention Station, Guangxi Zhuang Nationality Autonomous Research Institute of Prevention and Control of Parasitism and Epidemic Prevention Station, Military Academy of Medical Sciences, Military Research Institutes of Medicine of Guangzhou and Fuzhou Military Districts, organized, individually or jointly, survey teams and control teams to proceed with extensive surveys of the coastal villages and towns from Fuzhou, Fujian to Dongxing, Guangxi and Hainan Island, in cooperation with the related prefecture and county public health and epidemic prevention stations in Guangdong and Guangxi. Programs of on-site research on controlling A. aegypti were also carried out during dengue fever epidemics in 1980 in a natural village in Ya County, Hainan Island and in the summer of 1981 in the Qisha Township of Fangcheng, Guangxi. This paper reports the results of surveys and studies of these 2 years.

Distribution of A. aegypti in China

Before Liberation, there was a comprehensive report by Feng Lanzhou [7458 5695 [illegible]][1] on the distribution of A. aegypti on Hainan Island, Hong Kong, Jiulong and Guangzhou, Guangdong Province, Xiamen, Fujian Province and Shanghai City (not including Taiwan). The report is not entirely reliable, however. After Liberation, Zhang Benhua [1728 2609 5478] and the Military Academy of Medical Sciences carried out some surveys and gathered some specimens in the Leizhou

Peninsula. In 1974, when the Military Academy of Medical Sciences and Guangxi Zhuang Nationality Autonomous Region Research Institute of Parasites(2) were conducting a survey in the Beibuwan Prefecture of Guangxi, they discovered that larva propagation indices of A. aegypti of Waisha and Dijue of Beihai were as high as 91.67 and 73.3 percent, but they did not conduct a systematic clarification of the subject.

Surveys of these 2 years, basically clarified the distribution of A. aegypti in China (Taiwan Province was not surveyed).

Fujian: In September-October 1980, Fuzhou City, Zhangzhou City, Dongshan Island, and the coastal villages and towns of Xiamen City were surveyed but the distribution of A. aegypti was not discovered.

Guangdong: In 1981, Chenghai, Nanao, Chaoyang, Lufeng, Haifeng of Shantou Prefecture, Huiyang of Huiyang Prefecture, Zhuhai and Taishan of Foshan Prefecture, Yangjiang, Dianbai, Zhanjiang, Xuwen and Haikang of Zhanjiang Prefecture were surveyed, including the coastal villages, towns and offshore islands. A. aegypti was discovered in Zhanjiang Prefecture only. The concrete distribution points were [illegible] and Zhapo of Yangjiang County; Bohe of Dianbai County; Naozhou Island of Zhanjiang County; Wailuo, Qianshan, Chengnan, Chengbei, Haian, Maichen and Xilian of Xuwen County; Qishui, Wushi and Liusha of Haikang County. The larva growing indices of these points were tested. The index of Chengnan Commune of Xuwen County was found to be the highest, at 140. (Table 1) Survey results of Hainan Island indicate that A. aegypti is extensively distributed in the coastal villages and towns and the ancient volcano zone of the northern part. They are distributed in all 13 coastal counties, the 5 counties inland, and the 2 counties of [illegible] and [illegible]. A. aegypti is distributed mostly in areas less than [illegible] km from the sea; in the volcano zone, it is distributed 40 km inland.

Guangxi: The coastal villages and towns of Hepu, Beihai, Qinzhou and Fangcheng were surveyed. In 2 years, eight villages and towns, Shatian of Hepu County; Waisha, Dijue, Cendi, Nanwan and Huizhou Island of Beihai County; Xiniujue of Qinzhou and [illegible] of Fangcheng. The propagation density was the highest in [illegible] of Fangcheng County, with a Buleitu index of 140 (Table 2).

[illegible], the distribution of A. aegypti in China is generally to the south of [illegible], extensively in the coastal region and the northern volcanic mountains of Hainan Island. In the coastal region of the continent, it is discovered in Zhanjiang Prefecture, Guangdong Province and the coastal region of the north bay in Guangxi.

[illegible] Control of A. aegypti

[illegible] of dengue fever on Hainan Island and the coastal regions of Guangdong [illegible] in 1980 have caused the various regions to pay attention to the control of A. aegypti. The authors adopted some comprehensive measures on the basis of the conditions of [illegible] and obtained successful results. These may be divided into two categories: emergency measures of A. aegypti control during a dengue fever epidemic and regular measures of A. aegypti control to accomplish the goal of exterminating A. aegypti.

Table 1. Population Density of A. aegypti in the Coastal Region of Zhanjiang Prefecture, Guangdong Province (Spring, Summer 1981)

Place		Households surveyed	Household index	Breteau index	Index for every thousand persons	Container index
Haikang Cty.	Wushi	60	55.0	110.0	106.62	39.52
	Wushi	39	38.5	56.4	86.9	
	Qishui	68	47.06	67.65	103.96	33.60
	Qishui*	60	58.3	78.3	103.0	
	Liusha	60	28.33	30.0	52.63	20.22
Xuwen Cty.	Maichen	30	43.33	63.33	121.02	20.88
	Haian	95	57.87	76.84	125.65	32.31
	Xilian	61	26.23	26.23	34.40	12.31
	Wailuo	61	44.26	59.02	61.33	24.66
	Qianshan	34	82.35	135.29	187.70	48.94
	Chengnan	115	86.09	140.0	216.11	71.88
	Chengbei	60	40.0	55.0	94.56	19.53
Zhanjiang Cty.	Naozhou Island	360	12.5	16.94		6.40
	Naozhou Island	43	53.5	76.70	122.0	6.40
Dianbai Cty.	Bohe Township	100	43.0	75.0		30.49
Yangjiang Cty.	Dongping	60	25.0	26.78	40.30	23.53
	Zhapo	60	60.0	71.67	83.17	33.33

* Data of a different survey

Table 2. Propagation Density of A. aegypti in the Coastal Region of Guangxi Province (summer, autumn 1980)

Place		Households surveyed	Household index	Buleitu index	Container index
Beihai Cty.	Waisha	60	10.00	11.66	10.44
	Dijue	60	76.66	105.00	60.00
	Huizhou Island	60	33.30	35.00	29.37
Hepu Cty.	Shatian	53	75.47	111.30	68.00
Fangcheng Cty.	Qisha	60	73.30	140.00	80.00

[illegible] Emergency Control of A. aegypti:

The Dengue Fever Prevention and Control Team was organized by the Military Academy of Medical Sciences and Hainan Island Li and Miao Nationalities Autonomous Prefecture Epidemic Prevention Station, both members of the Coordinating Group. The team went to Maling Brigade of Tianya Commune, Ya County, Hainan Island, in the middle of August when dengue fever was prevalent. On 19 August a combined chemical and environmental control project began. The scheme was to combine mosquito extermination with larva extermination. The masses were organized to carry out a larva extermination movement once every [illegible] days, to dump, boil, wash, scrub and change water containers in order to kill the A. aegypti in them. On 20-21 August, DDVP and Decis were used in ultralow volume to spray every household once. Afterwards, the households where new cases of dengue fever were discovered or where A. aegypti was found, DDVP was sprayed once more. A. aegypti was quickly controlled. Before the implementation of the system, the Buleitu index of villages of close to 400 households was 133; it dropped to 10 on the 10th day after the extermination program began (Table [illegible]).

Table [illegible]. A. aegypti Density Before and After the Control System in Maling Brigade, Tianya Commune, Ya Cty., Hainan

(1980)

	Mosquito imagoes	Larvae		
Date of inspection	Index of positive households	Household index	Container index	Buleitu index
Before the control system	36.36	94	69.85	133
[illegible]	7.45	24	11.38	26
[illegible]	3.63	8	6.20	10
[illegible]	0	12	15.87	15
[illegible]	0	6	1.00	6

[illegible] after the control system

[illegible] the mass movement of cleaning the propagation sites once every [illegible] days, the important link is to scrub and wash with boiling hot water to remove [illegible] attached to the wall of water tanks. It is difficult to do a good job [illegible]. The water used for washing should be no less than 70° in temperature, according to the egg-hatching rate after the tank is heated for 5 minutes.

[illegible] Comprehensive Control System of A. aegypti in Normal Times

[illegible] control work was carried out in 1981 in Hepu, Beihai, and Fangcheng [illegible] with the goal of exterminating A. aegypti in 2 to 3 years. The [illegible] established a point in Qisha of Fangcheng and adopted a plan [illegible] and environmental control measures. Under the leadership [illegible] specialists, the chief measure was to raise Clarias fuscus [illegible] water containers. A suitable number of persons were hired under contract [illegible] raising the fish and inspecting the condition [illegible] regularly in every household. The inhabitants were urged [illegible] tanks, change new water and throw away the water left in the container

Table 4. Effects of Comprehensive Control of A. aegypti in Oisha Township (1981)

Index of larva density	Before the Control System				After the start of the Control System			
	June	July			August			September
	Last 10 days	First 10 days	Mid 10 days	Last 10 days	First 10 days	Mid 10 days	Last 10 days	First 10 days
Buleitu index	96.44	42.86	11.04	15.79	12.43	11.25	6.36	5.63
Household index	65.61	34.82	9.82	14.62	10.27	10.63	5.91	5.16
Index of every thousand person	161.86	67.42	20.32	27.98	21.82	18.71	14.16	9.40

so as to prevent A. aegypti from multiplying. In villages and towns of more than 600 households, there were 2.3 such water jars per household. In late June, a survey disclosed the Buleitu index to be 96.44. The fish were placed [in the tanks] toward the end of June and in early July, more fingerlings were added. Inspections in mid-July disclosed that the Buleitu index had dropped to 11.94 (Table 4). By the end of August, a total of 242 jin of Claris fuscus was used at a cost of 320 yuan.

According to the experience of Qisha, if this scheme is to be successful, the following two items must be performed so as to cause the larva propagation density to drop still further.

1. Good fish should be used. The Claris fuscus fingerlings on the market are often damaged; therefore, before they are placed in the tanks, they should be raised for awhile to pick out the healthy and strong ones to be raised in these tanks. If the fish die and attention is not given to taking them out on time, the whole tank of water will turn foul smelling. This is why the inhabitants of places where water is hard to obtain are unwilling to raise this species of fish. Aside from doing a good ideological job, other species of small fish with scales and having a strong seafood odor may be used. In Qisha, Tilapia nilotica (more than 200 of them) and Gambusia affinis (more than 100 of them) were tried. The effect of Tilapia nilotica was generally good. With Gambusia affinis, some were lost during transport and they were easily picked out when the inhabitants fetched water from the tanks; therefore, the expected effect was not obtained.

2. There should be propaganda to mobilize the inhabitants to pay attention to the control of A. aegypti so that they will be closely coordinated to perform the following two jobs: The first is to raise the fish well, the water tanks should be carefully covered to prevent the fish from leaping out. When there are no larvae in the tank, some grains of rice should be thrown in to feed the fish. The second is to wash the tank and change the water every 3 to 5 days when there are no fish. Because there had never been an epidemic of dengue fever in Qisha Township, the inhabitants often did not emphasize this job. From the middle of July to the middle of August, the Buleitu index of larvae propagation stayed above 10. After strengthening the organization and leadership, and repeated propaganda, to mobilize and to persuade, by late August, the Buleitu index had dropped to below 10 (Table 4).

[illegible] demonstrates that during an epidemic, combining chemical and environmental control measures and in normal times, combining biological and environmental control measures for comprehensive control of A. aegypti are effective, under the present economic condition of China. The key to success or failure of the control system is the mobilization and organization of the inhabitants.

FOOTNOTES

1. Feng L. C.: Pek Nat Hist Bull, No 12, 1938 pp 169, 285.

2. Hou-Zon group "Family of Mosquitoes in China" Team, Guangxi Zhuang Nationality Autonomous Region Mosquito Survey Group: Survey of A. aegypti in the Northern Bay Region of Guangxi, 1974 (not published).

PEOPLE'S REPUBLIC OF CHINA

ARTICLE REPORTS ON FLY MAGGOT INFESTATION, CAUSES

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 6, Dec 82 pp 357-360

[Article by Liu Deshan [0491 1795 1472], He Dingjiang [0149 1353 3068], Qiang Zhipeng [1730 1807 7720] and Wang Hua [3769 5478] of Parasitology Teaching and Research Office, Lanzhou College of Medicine]

[Text] For 3 1/2 years, from early 1978 to the middle of 1981, the authors took a continuous survey of fly maggot infestation and its causative flies in several regions of the northwest, along the segment of the ancient silk road from Xinjiang to Gansu. In China, fly maggot infestation is common. It not only causes economic losses in animal husbandry and endangers human beings, it also had military significance in ancient times. In "Shengwu Ji" (1842) written by Wei Yuan [7614 3293] of the Qing Dynasty, it is reported in the appendix "Saibei Jicheng" of the volume "Kangxi Qingzheng Zhunger Ji" (Vol 3 p 39) that "...there are small flies, the size of an ink spot, stealthily entering one's eye, followed by a small maggot falling into the eye. The maggot instantly grows to 4-5 fen. If not treated, the eye will become blind. The method of treatment is to broil a piece of mutton and cover the eye with it. All the maggots will come out of the eye in a little while and the eye will see again. This is why all those who walk cover their eyes with a piece of gauze to keep the fly out." In "Xinjiang Jilue" (Chun Yuan, Vol 71, 1777) it is reported that "...the numerous white flies are also very dangerous. They fly onto and touch the corner of the eyeball of animals and men to deposit maggots and fly away again. The maggots would not come out unless some sticky resin is used to remove them, therefore the troops were moved to Chuhuchu." These records testify to the fly calamity of that time.

As a matter of fact, the danger of fly-maggot disease has continued to this day and has become a special calamity of the northwest pastoral regions. On a summer day, if one is deep in a pastoral area, the first things one encounters are flies of all sorts, attacking one's head and face. They include a large quantity of flies causing facultative maggot diseases and semi-household and household flies. These maggot infestation causing flies and household flies cause the death of animals and loss in production of milk, meat, hide and fur. They are also the major reason for the extraordinarily high incidence of infectious diseases of the intestinal tract and fly-maggot infestation. The authors believe, however, it is even more important that in China, some major vectorial flies of Calliphoridae and Musca domestica, such as the green flies, houseflies, etc., are still migrating and growing and that among houseflies, the parasitic maggot infestation types are migrating with the meat and food trade (such as the southward [illegible]). With further development of the patriotic hygiene movement, the [illegible] has become a new aggravation.

In recent years, reports of fly-maggot infestation have been growing in number and most of them are limited to reports of clinical cases and cases in reference literatures. In reality, fly-maggot infestation is a relatively common disease in pastoral regions. The increase of fly-maggot infestation caused by specific flies demonstrates the extent of fly calamity in the animal husbandry industry and the appearance of facultative fly-maggot infestation reflects, to a certain extent, the backwardness of hygienic and economic standards.

China has more than 1,[illegible] types of flies (China Research Institute of Entomology et al [illegible]). Some flies, such as houseflies, can spread not only nearly 60 types of pathogens, they also serve as intermediate hosts for some nematodiasis pathogens, such as Thelazia callipaeda, Habronema megastoma, and Raillietina cesticilivus. It is especially true that the people of some cities and towns are seriously harassed by houseflies. In some areas of the Northwest, the density peak of flies in residential areas rises suddenly for a short period of time in a double-peak manner. [illegible] areas, flies are mostly in a single peak, especially in pastoral areas. When people are resting or walking, adult flies often enter the mouth, the nostrils, the external ear, the corner of the eye, or even inside [illegible].

[illegible] characteristics, parasitic fly maggots may be divided into the specific and the facultative while clinically they are often divided according to the parasitic site into: gastrointestinal fly-maggot infestation, urinary tract fly-maggot infestation, eye fly-maggot infestation, aurinasal infestation, and skin infestation.

Fly-Maggot Infestation Caused by Facultative Parasitic Fly-Maggots

Facultative parasitic fly-maggots include semi-specific fly-maggots (hemispecific myiasis [illegible]) and occasional parasitic fly-maggots (Accidental myiasis [illegible]). Most of these feed on feces or deceased remains. They are generally [illegible] rotted organic matter or food. They may also be in normal [illegible] accidentally enter the body of the host. Under special conditions, [illegible] through a stage of development in the body of the host. [illegible] Sarcophagidae, Calliphoridae, Muscidae, Syrphidae, [illegible], [illegible].

[illegible] reports of fly-maggot infestation of the surface of ulcers, [illegible], the urinary and digestive systems are caused by facultative parasitic fly-maggots.

I. Fly-maggot Infestation of Ulcers: Clinical reports are numerous and all are caused by facultative fly-maggots, mainly genera of green flies, houseflies, lavatory flies, barnyard flies and botflies. These flies can lay eggs, lay maggots, or lick and eat the wounds and drop excrement on them. The authors had seen a woman who had been paralyzed for a long time, there were many fly-maggots on her bedsores, spreading even into the vagina. The maggots were identified to be larvae of green flies.

II. Fly-maggot Infestation of the Gastrointestinal Tract: There have been reports of about 15 cases in China. Of these, three were caused by larvae of gastrointestinal flies and the remaining cases belonged to accidental parasitism. The authors encountered one such case, the condition of it is as follows:

Yang xx, an adult male, was a physician of Dunhuang County Hospital. He was suffering from loss of appetite, abdominal pain, diarrhea, and expelled 200 insects through excrement. As he was a doctor himself, he proceeded to expel the larvae, which were identified to be Stage II larvae of botflies. After the larvae and insects were expelled from the body, he recovered without taking [illegible] drugs.

III. Fly-maggot Infestation of the Urinary Tract and Urinary Bladder: The first domestic case was reported by Fischer (1920) about a male gonorrhoea patient in Shanghai who expelled six botfly larvae. Fly-maggot infestation of the urinary tract is often a complication of urinary tract infection. The [illegible] secretion of the opening of the urinary tract attract flies to lay eggs. It is important to note that larvae expelled from the urinary tract are [illegible] infestation. They are often larvae of other types of insects, mostly those of the family Psychodidae. The larvae expelled from the urinary tract in two cases seen by the authors most recently are not fly maggots [illegible] cases.

IV. [illegible] Parasitic Fly-maggot Infestation of the Eye: Aside from the [illegible] of flies of Oestridae family, larvae of green flies and houseflies have been reported in the conjunctival sac of cattle, which often [illegible] nematodiasis. This is a type of nematodiasis spread by [illegible] flies. Nematodiasis of human eyes is also caused by flies. In the pastoral areas, the incidence of natural nematode larvae infestation of houseflies [illegible] percent.

V. [illegible] Infestation of Fly Maggots: There have been reports of seven such cases. Of these, two are fly-maggot infestation of the ear. The authors saw a [illegible]-year-old boy, frequently shaking his head, examination of the [illegible] system did not disclose any abnormality, it turned out that a dead [illegible] had lodged in his ear and obstructed his ear canal. It is not [illegible] larvae of flies (mostly larvae of Wohlfahrtia magnifica) in the [illegible] pastoral regions.

[illegible]-maggot Infestation

[illegible] maggots, also called specific myiasis producing group, [illegible] the larvae of which are completely parasitic. They must develop inside the body of animals and they are also selective, to a certain extent, regarding the host and the parasitic site. Those that are parasitic in the subcutaneous tissues, the stomach, or other cavity and canal organs are Gastrophilidae, Hypodermatidae, and Oestridae, which are generally called "three-flies."

I. Genus Gastrophilus Leach of Family Gastrophilidae: The known species in China are G. haemorrhoidalis (Linnaeus), G. pecorum (Fabricius), G. intestinalis (De Geer), G. nigrocornis (Loew), G. inermis (Brauer), G. nasalis (Linnaeus), and G. veterinus.

The larvas are parasitic in the digestive tract or the vicinity of the anus of solid-hoofed animals such as horses, donkeys and mules and may occasionally be parasitic in the human body.

When a veterinarian or a breeding station worker examines the rectum of horses, larvae of G. intestinalis are often found to adhere to the forearm and [illegible] even cause hemorrhagic spots.

With respect to human infestation, three cases of horse-breeding station workers in Jilin are reported to suffer from stage I larvae infestation of G. haemorrhoidalis and G. intestinalis. In Nei Menggu, a 3-month-old girl is reported to have larvae of G. nigricornis roving under the skin of her neck (Yao Wenbing [1202 2429 3521]). According to the result of a survey of the authors at the Shandan Military Horse Farm in 1978-1981, the incidence of parasitism of various types of larvae in the stomach of horses is the highest for G. haemorrhoidalis, then G. pecorum, then G. intestinalis. Five percent of the horses suffer from mixed infestation.

Infestation of G. intestinalis and G. haemorrhoidalis occurs in early June to early October, with late July as the peak. Flies begin hovering around herds of horses at 0800-0900 on clear days, they are very noisy. Toward dusk, they fly closer to the ground. They rest and stop flying after 2100 hours.

Within the body of the horse, stage I larvae stay in the stomach wall, use their strong hooked mouth to attach themselves to the mucus membrane and are not easily removed. In the middle of May, G. haemorrhoidalis flies begin to leave the host. A large quantity is expelled in July and the number gradually decreases in August and September. In October, they stop being expelled. This is also generally the case with G. pecorum.

The eggs of G. pecorum are black and are laid mostly on the tip of grass [illegible] or near the hoof of horses. According to laboratory observation of [illegible], after emergence, the ovary of G. pecorum is mature within 12 hours. By then, the entire abdominal cavity is filled with eggs. Without mating, ovulation begins in 6-12 hours after emergence and there is a fertilization [illegible] on one end of the egg and an umbrella-like membrane on the other end capable of adhering to things. The egg of G. intestinalis is a yellowish off-white color, laid mostly on the horse's mane or fore feet. When the horse licks its hair, the larvae [illegible] and enter its mouth to reach below the mucus membrane of the [illegible] of the tongue or the soft palate. A little more than one month later, the larvae [illegible] [illegible] stomach [illegible]. The [illegible] G. haemorrhoidalis [illegible] black and has an obvious horizontal pattern on the shell. Adult flies lay eggs mostly on the short hair around the horse's mouth and the larvae also hatch as the eggs are stimulated by the action of licking.

II. Family Oestridae

1. Genus Oestrus Linnaeus: O. vis Linnaeus;

2. Genus Rhinoestrus Brauer: R. purpureus (Bauer), R. latiformis Gan., R. usbekistanicus Gan.;

3. Genus Cephalopina Strand: C. titillator (Clark);

4. Genus Pharyngomyia Shiner: P. daerenae Grunin;

5. Genus Tachinostrus: T. semenovi Portsch;

6. Genus Xanthoestrus: X. fasfuosa Vill.

Larvae of O. vis Linnaeus are parasitic in the nasal cavity, front sinuses and cheek sinuses of sheep, horses and goats. They may enter the horns or the skull as well. They may cause the sheep to develop such symptoms as sneezing, rubbing the nose, watery eyes and nose, and shaking the head; later inflammation, pus formation and hemorrhage of the nasal membrane develop. In the late stage, the sheep may appear to be suffering from cestodiasis. In Shandan, the infestation rate of the superior breed of sheep introduced into the area was above 90 percent and propagation of this superior breed has been seriously affected by it.

Adult [illegible] flies attack sheep mostly at sunrise. At noon, when the sheep encounter flies swarming, they will stop moving, are too afraid to eat, or shake their heads and touch the ground or they may drag close to the ground or stay close to one another to hide the head under the abdomen or between the legs [illegible].

The female flies of this species lay the eggs which hatch in the genital canal into first-stage larvae. The pressure of genital swelling causes the flies to [illegible]. It takes but one touch on the nasal cavity of a sheep or the conjunctiva of a human eye to squeeze out all the little young flies, as many as [illegible] of them at one time and a maximum of 52 of them has been reported. When one of the workers was surveying a grassland and talking, he felt something hitting his eye glasses and as he took them off, 32 I stage larvae were scattered all over the place. This is the extent of the speed with which the larvae were squeezed out of a fly of this species.

When a fly of this species attacks the eye, all the larvae it produces are stage I, which have hooks at the mouth and a thorn at the tail. In addition, they also use fine thorns on the surface of the abdomen to attach to the surface of the conjunctiva in just one touch. Under a lamp, a scratch wound may be observed on the conjunctiva [illegible]. It is very painful for the host during the instant the fly is [illegible] maggots.

In China, there have been more than 300 reported cases of eye diseases caused by flies of this species attacking human beings. In some areas, such as Keketuhai, Xinjiang, there may be several tens of such cases every year. The maggots are mostly laid on the surface of the eyeball, including the conjunctiva, the conjunctival sac, etc., but there have been no reports of the larvae entering the inner eye. The symptoms involve mainly stimulated discomfort of the cornea and conjunctiva and the pain is unbearable when the larvae crawl on the cornea. There are also pricking pain, congestion, running nose, etc. After the stage I larva is removed from the eye with a cotton tip and placed in saline water it will survive for about 1 week. In the conjunctiva sac, it will live for 10 days or more before it dies.

The pastoral region is not the only place where flies of O. ovis Linnaeus attack human beings. The author saw once such case in a busy city; the case history is as follows:

Qin xx, an adult male, was watching a monkey show in a crowd on a street corner. He saw a bee on the shoulder of the person in front of him. Suddenly, he felt something hit his eye. A minute later, he used a handkerchief and took out five small white insects from his own eye. He then went to the outpatient clinic where several more larvae were taken out. These larvae were very active and were identified as Rhinoestrus latiformis Gan.

Treatment for flies of the Family Oestridae attacking the external eye: Generally an opthalmological anesthetic, such as 0.5-2 percent decicaine solution, may be used to drop into the eye, or a cotton tip may be soaked in an anaesthetic before being used, to remove the insect. Afterwards an anti-inflammatory solution or ointment may be administered in the eye.

III. Hypodermatidae: The known genera and species in China are the following:

1. Genus Hypoderma Latreille: H. bovis (L.) De Geer, H. lineatum (De Villers), H. diana Brauer; they are on record in Heilongjiang, Nei Menggu, and Qinghai and have also been reported in Gansu; H. moschiferi Brauer, its larvae are on record in Xizang; H. qinghaiensis Fan 1980.

2. Genus Oestroderma: O. potanini Ports, O. schubini Gruin, O. xizangensis Fan [illegible].

3. Genus Oestromyia Brauer: O. lepolina (pallas), the larvae of which were found in small rabbits in Huvan; imagoes were found in Qinghai as well as Gansu. O. koslowi Ports, male imagoes of which were found in Qinghai.

4. Genus Przhevalskiana Grunin: P. orogonis Grunin, P. aenigmatica Grunin, found in Nei Menggu and Gansu.

5. Genus Portschinskia Semenov: P. magnifica Pleske, P. bombiformis (Ports.), P. przewalskyi (Ports.) found in Qinghai.

6. [illegible] . tarandi (Linnaeus).

[illegible] the species hypodermatidae bovis (L.) prevail in Liaoning, Jilin, [illegible], Hebei, Nei Menggu, Shanxi, Shaanxi, Gansu, Ningxia and Xinjiang. The rate of infestation of the cattle of some places may reach 100 percent: [illegible] an intensity of several tens to several hundred larvae. The yaks (Peophagus grunniens), which are a special species of the Northwest plateau, also have a high infestation rate. This species of yaks graze mostly in high mountains above [illegible]m in altitude. These flies particularly attack calves 1-2 years [illegible] and often cause the calves to die. The adults of this species are large. [illegible] eggs on cattle's hair, attaching to it with a handle on the egg, mostly on [illegible] side of the hair in an orderly row of 1-20 eggs. The egg is a long oval shape, flat on the backside, and a shiny light yellow color. There is a small ridge on the front tip and the larva breaks out from the ridge. On the side [illegible] the ridge, there is the fertilization hole. On the base of the egg, there [illegible] handle, containing an adhesive-like substance to attach itself to the hair [illegible] the cattle. After the larvae is hatched, it will drill itself into the hide of the cattle.

The flies [illegible] species stay mostly on the back of the cattle. The stage III larva will finally drill a hole in the hide to come out and fall on the ground to become an imago. The hole in the hide will be filled by connective tissues to form a scar. After the hide is made into leather, there will still be an [illegible], which is called "horsefly spot"; the hole in the hide that is not [illegible] called a "horsefly eye." On the average, the spots and eyes amount [illegible] percent of this type of leather to affect its quality very seriously.

[illegible] infestation is usually found in women and children, rather common in [illegible]. During one survey, the author found 18 such cases. The adult [illegible] the [illegible] of a person to lay eggs mainly in the hair at the [illegible] of the neck. Each time more than 10 eggs are laid. The [illegible] in [illegible]-40 days to form stage I larvae, which will immediately crawl [illegible] drilling into it. At this time, the victim will feel pain, [illegible] sensation. In most cases, it takes 15-20 days after the [illegible] before the victim will feel the larvae moving under the skin and [illegible]. In all cases of human infestation, the larvae move under [illegible] begins on the face. When the larvae move to the upper [illegible] upper eyelid, obvious swelling and pain are often the [illegible] on the cheek or the neck. In many cases, the [illegible] part of the body. As the larvae move, tumors of the [illegible] occur. The tumors that are not putrid [illegible] surface. When the tumors break open, there [illegible], the pain will continue but become milder and the skin [illegible]. The center of the tumor will rise and under the skin, [illegible]. Later, a small round hole will open up and some [illegible]. If the tumor is squeezed, a white colored complete and [illegible].

[illegible] not rare. There are new cases almost every year [illegible] when the victims come to the city to see a physician, [illegible] after [illegible].

Summary

This paper reports a 3 1/2 year survey in 1978-81 of fly-maggot infestation in China's northwest and the pathogenetic flies, along the ancient silk road to China. Fly-maggot infestation is a frequently observed parasitism common to men and animals (zoonosis). This disease can cause economic losses in the animal husbandry and leather industry. Its damage to humans also cannot be ignored. Using historical records of ancient China, the damage of these flies to military activity is explained.

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PEOPLE'S REPUBLIC OF CHINA

PROGRESS IN ELIMINATION OF FLIES REPORTED

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 6, Dec 82 pp 363-367

[Article by Fan Zide [5400 5320 1795] of Shanghai Research Institute of Entomology, Chinese Academy of Sciences: "A Report of 3 Years' Advances in Research on [illegible] Flies by the Special-Topic Working Group"]

[Text] Since the Wuxi Conference of 1978, under the leadership and encouragement of the Central Patriotic Committee and with the positive efforts of units everywhere, scientific research on the extermination of flies is flourishing. A total of [illegible] papers have been received; this amount of work in 2 to 3 years is a rare event since liberation.

The [illegible] Extermination Special Topic Group has three assignments totaling 18 subjects. In order to complete its plan, nationwide lecture classes were organized in Wuxi and Shijiazhuang in 1979 and again in 1980 to proceed with staff training, scientific exchange, and special program implementation. Training classes were also organized in Gansu, Shanxi, Hebei, Henan, Shandong, Guizhou and Hunan.

1. Report on Species Surveys

[illegible] Ecological-Geographical Regions" is a fundamental work [illegible] all regions of the nation. The known species of [illegible] have exceeded 1,200 (of these, the specimens of 124 species are [illegible] in China). The book, "China's Calypter Flies (Excluding [illegible]) Draft" has been compiled, and larvae of more than 70 species have been dissected and described. The work of classifying the stages I and II [illegible] Sarcophaga has also been completed and a vertical distribution [illegible] carried out in the various regions.

2. [illegible] Survey

[illegible] following subjects: a survey of the species composition, [illegible] distribution, and the phenological phenomena of [illegible] representative ecological environments, the pre-[illegible], the overwintering condition, the adult habit, the multiplication [illegible] habit, etc., of common species of flies.

[illegible] in the [illegible] and of the [illegible]. The [illegible] results are [illegible] complicated: it varies with the specific conditions of the [illegible] mainly in the difference in breeding sites, which must be [illegible]. For example, in [illegible], it was discovered that the earliest [illegible] in wine lees. In the summer, the [illegible] is the [illegible]; in the autumn, it is mainly the horse manure [illegible]. In [illegible], it is mainly the [illegible], [illegible] in the [illegible]. [illegible] it was disclosed that houseflies [illegible] manure [illegible]. In [illegible] County of [illegible], the houseflies [illegible] in [illegible], [illegible]. [illegible] in large [illegible] trash [illegible] and [illegible]. The overwinter condition of houseflies was also reported, a [illegible] prevention program starting as early as March was proposed. In [illegible], [illegible] quantity of multiplication of houseflies in [illegible], [illegible], and trash piles was reported and [illegible] to determine the [illegible] for the propagation of flies were conducted. In [illegible], [illegible] manure [illegible] scattered pig manure were found to have the highest rate [illegible], with [illegible] and [illegible] next [illegible].

[illegible] Carrier [illegible]

[illegible] bacteria in and on the body of houseflies revealed the [illegible] intestinal pathogens, the [illegible] conditions [illegible] of different [illegible]. Intestinal pathogens and conditional pathogens were detected in [illegible] of the various regions to provide further evidence of the [illegible] houseflies, [illegible] and a better understanding of the damage of houseflies.

[illegible] a total [illegible] carrier rate of [illegible] percent, [illegible] detection rate of pathogens. [illegible] from the [illegible] similar to that of houseflies. [illegible] intestinal bacteria were isolated with more than [illegible] rate [illegible] detection rate [illegible] [illegible] it is the highest [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] intestinal [illegible] [illegible] dysentery [illegible] [illegible] [illegible] houseflies [illegible] [illegible] early July, out of three groups of houseflies captured from the homes of two cases of dysentery, Shigella flexneri of the same type as the patients was isolated from two of the three groups. Furthermore, in late May, dysentery bacilli were also isolated from green flies and summer flies. A vectorial survey of common flies in Changsha disclosed that the number of germs carried in and on the body of flies was the most numerous with houseflies and gold flies. Although dysentery bacilli were not isolated in urban flies in Changsha City, their density was the highest in the city and their peak coincided with that of dysentery epidemics.

During a 6-month survey of five different types of sites of a certain area of Jinzhou City, as many as 18 types of intestinal and conditional pathogens were detected from flies. Of these, there were six strains of dysentery bacilli (amounting to [illegible] percent); four strains were isolated from flies captured from groceries and restaurants. It was also discovered that the pathogen carrier frequency was higher on the body of flies than in the body of flies in dining halls and refuse dumps; therefore, the carrier rate was the highest with houseflies. The strains isolated coincided with those prevailing in the city and the prefecture. A 1974 survey of a typhoid fever epidemic area of Harbin revealed Salmonella typhi in houseflies (at a rate of 3.84 percent). After timely fly extermination and other comprehensive measures were adopted, the epidemic was quickly controlled. In 1980, during a dysentery epidemic, Shigella dysenteriae(I) was detected from houseflies in an epidemic area and S. flexneri Ib was isolated from barnyard flies (at a total rate of [illegible] percent).

[illegible] City, pathogens were not detected from flies but judging from the total number of germs carried, the highest vectorial season was in August and the [illegible] processing plants, with a carrier rate of E. coli as high as [illegible] percent.

[illegible], it was discovered that as the density of houseflies reached the peak the dysentery incidence curve also rose.

Research on Chemical Prevention and Control

In the past [illegible] years, a nationwide survey of housefly resistance to Dipterex, DDVP, [illegible]: (1) Except for a few cities, the resistance of houseflies [illegible] tendency to decrease, compared with 1963; this fact was related to the reduction or cessation of BHC application all through the region; [illegible], housefly resistance to DDVP and depterex was obvious; [illegible] control results of these two insecticides were very poor; (3) Due to the fact that houseflies group in a residential point or a village was relatively stable, the housefly resistance to the three insecticides was [illegible] different in various areas of a region; (4) the insecticide resistance [illegible] housefly was often higher than the males; but in case of resistance [illegible]terex, that of the male housefly was in fact higher than the female in a [illegible].

[illegible] control, Decis and trichlor[illegible] [illegible] small dosage requirements, strong residual killing effect, and [illegible] direct spraying results; therefore, it is better than other chemicals. [illegible] is a chemical of high efficiency, low toxicity, and [illegible] cumulative in animals; its residual effect is longer than DDT; it may be used as a [illegible] or applied as a quick killing agent. It is currently being test-manufactured in Tianjin, Yangzhou, Guangzhou, Jiangxi and Shandong and may be produced in large quantities before long.

Research on Biological Prevention and Control

1. Research on Methods of Baiting Flies: In the matter of luring flies through their senses or habits, the three agents of rotten fish, rotten bean-cake, and remains of flies were tried and compared in Beijing to reveal that rotten fish attracted the largest number of species of flies and the rate of capture of houseflies was also the highest; rotten bean-cakes rated the next and remains of flies [illegible]. In some sites (pig sties), the effect of rotten bean-cakes was found to be similar to rotten fish. Preliminary test results in Jinyun [illegible] demonstrated that trimethylamine and indole are better baits for houseflies than two batches of synthesized sex pheromones. In Shanghai, a certain [illegible] waste material has been preliminarily identified to be highly effective for capturing flies, because it is very sticky it may be used to capture houseflies without adding any lure. A comparative test in Dalian demonstrated that if a white colored flypaper with black colored dots is laid flat, its fly-baiting property is better than either hanging it up or flypapers of other colors.

2. [illegible] Microbial Prevention and Control: An experiment to [illegible] with Bacillus thuringiensis H9β exotoxin was carried out [illegible] in [illegible] and repeated in 1980. Results proved that (1) H9 is [illegible] effective for exterminating larvae of houseflies, it is also effective [illegible] green flies (reported in Shijiazhuang in 1974); (2) When H9 is used [illegible] the effect is best during the egg stage and becomes [illegible] in stages; (3) H9β can withstand high temperature [illegible]; (4) when it is tested with small white mice by adding H9 powder [illegible], it remains effective in the [illegible] for killing [illegible] is not harmful to the mice.

3. [illegible] with Insect Growth Regulating Agents for Exterminating Housefly Larvae: [illegible] growth regulating agents, including Mieyouniao No. [illegible] Dimilin I, II and Diflubenzuron] were proven in [illegible] killing effects on housefly larvae. In doses below 10 ppm, Mieyouniao [illegible] and [illegible] No. 1 mixtures were stored 20 days before being tried [illegible] housefly larvae and 100 percent of them died within 6 days. The residual effect of these chemicals last more than [illegible] days. Under simulated [illegible] below 10 ppm, stage I larvae were placed in such [illegible] manure or horse manure, the effective control period was found to [illegible] their effect was poorer with last stage larvae. The [illegible] since China now has the condition to produce these agents in large quantities and they are harmless to [illegible] animals, they should [illegible].

[illegible] Survey of Natural Enemies: Overwintering pupae, dug up from the edge of [illegible] in a survey in Jinzhou revealed that 60.4 percent of the pupae were [illegible] parasitic wasps. Preliminary observations disclosed four types [illegible] the large ones occupied one pupa. In case of small wasps, [illegible] to 30 wasps [illegible] from every pupa. Survey, protection, and utilization research of [illegible] continue in the future and the specialists should be asked to identify these wasps.

Research on Physical Prevention and Control

[illegible] the research began with a survey of propagation sites. It was discovered that larvae of houseflies overwinter and appear the earliest in wine dregs. The physical technique of soaking wine dregs in water is used to resolve the problem. With respect to the problem of maggots in fresh and cooked animal bones, the method is to store bones in a warehouse with screens on the windows and doors so as to separate the bones from the outside environment. With respect to the [illegible] tanks of pig farms, aside from covering the feed with water, holes [illegible] in the tank cover and add a cage to lure flies. This method [illegible] multiplication. With respect to pig manure and cow manure [illegible] sites, adding water and soil causes the manure to turn to thin [illegible] does not cause multiplication of houseflies. In Shenyang, thin plastic film is used to cover manure piles tightly, to utilize the heat of organic fermentation and the oxygen deficient condition to kill maggots. In Wuhan, [illegible] grass to cover the cow dung piles of dairy farms [illegible] that the temperature in the pile may rise to [illegible] pupae. If plastic film is used to cover the pile, the [illegible] to [illegible]°C. In Guangdong, the effect of using bio- [illegible] observed in a laboratory and examinations [illegible] result, insect egg killing result, and [illegible] that the effect reaches the "Compost sanitation evaluation [illegible] methods devised on the basis of habits of flies and [illegible] carried out, at very little cost to produce good effects. [illegible] construct bio-heat fermentation chambers, an initial [illegible] for the chamber to be used all year long.

[illegible] "building a water pond in front of lavatory urn" was [illegible] multiplication. Compared with the shallow pit style [illegible] to have many advantages. In Liaoning, lavatories with [illegible] covered channels were built to reconstruct them into [illegible]. Utilizing lavatories to attract flies and [illegible] value in controlling the density of housefly imagoes.

[illegible] Propagation of Fly Maggots: In recent years, a large [illegible] manure has been used to raise fly maggots to be used [illegible] and pond-raised fish. This has mostly been [illegible] agriculture and fishery. [illegible] of Guangdong demonstrated that a large [illegible] may be quickly propagated and yield-increasing [illegible] feed can be obtained. [illegible] dry maggot [illegible] experiment showed weight increase of 70 and 139 percent respectively. When fresh maggots were used to feed chicks, the weight gain rate was improved 67 percent and they began to lay eggs 4 months sooner. Fresh maggots contain about 19 percent unrefined protein and [illegible] percent unrefined fat at a cost of 0.12 yuan; maggot powder contains about 61 percent of unrefined protein and 23 percent of unrefined fat, at a cost of 0.4 yuan per jin, only half of the cost of fish powder. If fowl and animal droppings may thus be fully utilized, multiplication of flies may be eliminated as well. Although this project is being completed by the department of agriculture, it is entirely possible to unite it with fly extermination. It is worth study and popularization.

Fly Extermination Measures in Cities and Rural Areas

Summarization of Experiences of Fly Extermination Experiment Points and Advanced Regions: The experiences of the past was summarized into "Technical Measures of Prevention and Control of Flies (Draft)" in order to guide the fly extermination work of various regions. The fly extermination experiment points were carried out mainly in Ye County, Yantai Prefecture of Shandong Province. Moreover, Tiexi District of Anshan City was set up to represent residential areas of medium-sized cities and Jin County in the vicinity of Dalian City to represent small towns and rural villages of Jin County to represent rural villages. In all these points, the propagation sites were surveyed to proceed either with treatment or with control measures. A great deal of efforts were exerted to extinguish imagoes and larvae, and in all these points the density of fly imagoes was reduced, at varying degrees of 20-50 percent. This was only an index. The major methods and the degree of reduction of fly density in these points are introduced in the [illegible].

[illegible]eries in winter and spring in Jinzhou was evaluated.

The major direction of comprehensive prevention and control of flies, judging from the understanding gained by the author during the project, should mainly be the control of multiplication. The emphasis in the future should be short term emergency action, with surveys and research of the basic condition and searching for new techniques as added considerations. That is to say scientific research on propagation control, chemical prevention, and problems relating to the habits of [illegible] should also be emphasized. These subjects should be understood first. In view of the importance of houseflies in the transmission of infectious diseases of the intestinal tract, houseflies should be the main area of research.

[illegible]	Treatment of Breeding Site	Extermination of imagoes, larvae	Degree of reduction of fly imagoes
[illegible]	Rate of multiplication is the [illegible], followed by animal manure, decayed animal materials, rotten plant materials and refuse; major methods are reconstructing lavatories, frequent emptying, and high temperature compost making with animal manure.	Using [illegible] night soil Dipterex mixture to lure and kill fly imagoes.	Average reduction of 20.9 percent
[illegible]	Multiplication site treatment was carried out mainly in soy sauce plants, bean product plants, food processing plants and wine-making plants; all outdoor piles were changed into cellar storage or daily clearing of raw materials for one day's production.	Flypaper was used in the food industry; in other sites of fly multiplication, chemicals were used, and cages to capture to kill a large quantity of fly imagoes.	A reduction of 85.3 percent
Jin County, Liaoning	Implementing basic sanitation construction of towns and villages to reduce fly multiplication sites and to change the appearance of towns. The investment was 400,000-500,000 yuan; 72 percent of the local roads were repaired; the number of reconstructed lavatories and pig sties amounted to 90 percent of the multiplication sites of that locality.	The expenditure for exterminating fly imagoes and larvae was about 10,000 yuan per year; the methods used include luring with cages, applying Dipterex, using flypaper indoors and spraying chemicals outdoors; rules for awards and penalties were carried out to practice sanitation surveillance.	A reduction of [illegible].7 percent. Typhoid fever, hepatitis and other infectious diseases of the intestinal tract were controlled; incidence of diseases was reduced.
Jin County rural areas, Liaoning	Mainly proceeded with control measures for night soil, animal manure and fowl droppings, the so-called "three-manure," and feed tanks.	Improved cage lure and capture technique is used mainly to catch fly imagoes.	Average reduction of 40-70 percent.

PAST WORK ON PREVENTION, CONTROL OF INSECT VECTORS REVIEWED

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese No 6, Dec 82 pp 379-381

[Article by Lu Baolin [7120 1405 7792] of Research Institute of Microbial Epidemiology Military Academy of Medical Sciences]

[Text] Anopheles of many types are the insect vectors of human malaria; therefore, anopheles control is an important link in the prevention and control of this disease. The author and colleagues have carried out large-scale studies on malaria vectors and their prevention and control since the fifties and their work has had an important effect on the incidence of malaria all over the country. To date, the problem of prevention and control of vectors is still not entirely resolved and malaria remains a high incidence disease. Hence, a review of past work on vectors and their prevention and control and an investigation into future strategies should be beneficial for further improving malaria prevention and control.

The Problem of Malaria Vectors

In the 1950's and 1960's extensive surveys of natural gland infection of anopheles, colony movement, and blood sucking habits, and epidemiological analyses were carried out and improved. The most important gain was a revision of some past theories, and a clarification of major vector species in China so as to define the target of control. This result is significant in the prevention and control of malaria.

Prior to the aforementioned periods, it has been believed that there were more than 10 species of malaria vectors in China. Some of these, such as Anopheles pattoni's, were regarded as important vectors in North China were based upon positive results of laboratory investation only; others were based upon inferences or conclusions made in foreign countries, such as An. sacharovi's being considered to be the vector in Xinjiang, etc. At present, it is known that China actually has the following four species as important vectors.

1. An. sinensis: This is the major vector in the vast plains of China, especially the regions of rice culture. This conclusion had been reached before Liberation but its significance in the prevention and control of malaria in China was fully

recognized only in recent years through surveys of incidence of tertian malaria in the Chang Jiang, Hua and Huang He plains and the Nanyang Basin. At present, malaria transmitted by this species of anopheles amounts to more than 80 percent of the total incidence in the country.

(2) An. anthropophagus: This is a subspecies of An. lesteri anthropophagus, the major vector in the middle and lower reaches of the Chang Jiang and the low hills to the north of 25° N.lat.(1)

(3) An. minimus: This is the major vector of malaria in the mountains and hills of South China; sometimes An. jeyporiensis candidiensis is the secondary vector.

(4) An. dirus: It is the major vector of malaria in the mountain forests and foothills of Hainan Island. It had originally been regarded as An. balabacensis. Now it is known to be this recently recorded species,(3, 15) while the An. balabacensis reported in Taiwan is now known to be An. takasagoensis.(16) They are all species belonging to the anopheles group of An. leucosphyrus.

Generally speaking, the major vectors in China have been clarified(8) but further research is still needed on some problems. For example, there is still [illegible] some related species of An. sinensis and their malaria spreading [illegible] different places. According to statistics, there are as many as [illegible] species belonging to this group in China.(2) Although records and [illegible] of some of these still require deliberation, it may be said that this [illegible] in China. Aside from An. sinensus and An. anthropophagus, [illegible] other species of this group are responsible for spreading malaria [illegible] na remains a subject awaiting clarification. Moreover, [illegible] distributed almost all over the country(12) but their importance [illegible] from place to place. Aside from such epidemiolo- [illegible] the species groups, difference in geographic species [illegible] and in their sensitivity to malaria protozoa is obviously [illegible], but whether the sensitivity to protozoa of the [illegible] determinant condition remains a question. This [illegible], therefore, will necessarily help deepen epidemiological [illegible]

[illegible] Xinjiang, Xizang and other partially malaria affected [illegible] although An. hyrcanus natural stomach infestation was [illegible] in the 1950's and was regarded as the local vector, [illegible] to determine the vector. Survey data of southern Xinjiang [illegible]. Similar situation exists in other regions as well. In [illegible], the relative importance among An. sinensis, [illegible] and An. anthropophagus remains a subject requiring further clarification.

[illegible]

[illegible] characteristics, the prevention and control of the [illegible] into two categories:

[illegible] An. minimus and An. anthropophagus are relatively easy to control and the solution to the problem of these two types of mosquitoes has been found in China. Due to their endophily characteristic, they are highly sensitive to such insecticides as DDT, [illegible], etc. When these insecticides are sprayed indoors, effective control may be obtained(7). This method alone was used on the entire island of Hainan to control An. minimus and the effect was obvious(8); not only the malaria transmitted by this type of mosquito was controlled, but also caused this species of mosquito to be close to extinction.

It should be noted here that in a few places in Hainan Island the number of An. minimus has obviously increased, and in some places types of An. minimus that are exophily, bovidophagus, and having habits different from previously existing ones (endophily and anthropophagus) have appeared.

[illegible] An. dirus and An. sinensis are more difficult to control and a solution has not been found to this day. Routine indoor spraying is not effective because the imagoes of An. dirus are typically exophily. Moreover, mosquitoes of this type propagate in dense forests and small puddles of water below shrubs and [illegible] difficult to find. In China and abroad, there remains no satisfactory method [illegible] killing their imagoes and larvae. At present, China has adopted an improved method of spraying, aside from spraying on the wall surface indoors and [illegible] outdoors, the eaves are also sprayed. The result is somewhat better.(5) In addition, combined with agricultural development, if groves of trees surrounding residential areas are removed, damage from this type of mosquito may be greatly reduced, but for many reasons, this technique cannot be extended.

An. sinensis is the most difficult to control. Because its propagation environment is relatively more complex, including rice paddies, the quantity of the species [illegible] dramatic, and the living habit of imagoes varies a great deal with the [illegible], the season and the environmental condition. These characteristics cause the [illegible] application of insecticides to be impractical. Results of indoor spraying [illegible] and are often less than ideal. Many techniques were experimented in the past. For example, spraying insecticide in animal shelters to kill [illegible] emerging from overwintering and to exterminate the first generation larvae, etc., all demonstrated a certain prevention and control effect, but these [illegible] extensively nor continually applied. In recent years, different [illegible] intermittent irrigation of rice paddies or raising domestic fishes or [illegible], etc., have been adopted in some places to control An. sinensis [illegible] in rice paddies or other bodies of water, and all [illegible] appear to be promising. It should be pointed out that under [illegible] Henan Provincial Public Health and Epidemic Prevention [illegible] Institute of Irrigation Chinese Academy of Agricultural [illegible], the technique of shallow irrigation of rice paddies was experimented [illegible] plain of the Huang He [illegible]. Under natural conditions of that [illegible], this technique has demonstrated the three advantages of yield-increase, [illegible] and reduced propagation of mosquitoes. [illegible] It was extended [illegible]. Besides, in many places, ground surface or aerial ultralow volume [illegible] to exterminate An. sinensis and Culex tritaeniorhynchus [illegible] results. However, it is obviously not [illegible].

In general, although the aforementioned techniques of controlling An. sinensis have been experimented in China, some of these techniques are difficult to extend in reality. Comprehensive and systematic countermeasures are, therefore, lacking. In addition, mosquitoes of An. sinensis in many places have developed varying degrees of resistance to DDT, BHC, malathion, Sharingseng, etc., to cause their prevention and control to be even more difficult. Therefore, for many years, this type of mosquito has been the most thorny problem in the prevention and control of malaria vectors in China.

Future Investigations in Prevention and Control

Opinions in China concerning prevention and control of malaria vector and its research are as follows:

1. Owing to the importance of An. sinensis in malaria transmission and the difficulty and complexity of its prevention and control, it should be emphasized and be considered as the major target of research. Research in this aspect should [illegible] with large area application, attention should also be given to on-site experiments.

2. Practice has proven that the prevention and control of An. sinensis cannot be resolved with one or two assaults a year or by depending upon a single technique. The policy of integrated control must be adopted.[illegible]

3. Environmental management must be foremost in the agenda. This means that through utilizing the current reconstruction of rural villages and the two-management [illegible], environmental modification and environmental manipulation must be carried out to improve the living condition and habits of [illegible] environment and reduce the multiplication of mosquitoes or to reduce man-mosquito contact to avoid harm.(17) This is a permanent cure. [illegible] irrigation technique is a typical example of environmental manipulation. With the increase of income of the farmers at present, [illegible] are being constructed, overall plans of reconstructing [illegible] carried out in some production brigades to change [illegible] of the villages in a great way. This also presents a good [illegible] environmental manipulation to control mosquitoes.

4. [illegible] local species [illegible] An. sinensis must be [illegible]. [illegible] there have been many studies on the ecological [illegible], some important links, especially in relation [illegible], should be further clarified so as to [illegible] and [illegible] of attacking it effectively. For [illegible] type of mosquitoes grew mainly [illegible] this condition is favorable for early [illegible] seedlings has [illegible] in rice paddies, however. This change adds [illegible].

[illegible] the basis of understanding its [illegible] as [illegible] in the [illegible], it is necessary to adopt [illegible] different methods to suit different times, different [illegible] and [illegible] a series of prevention and control measures. For example, [illegible] on the basis of [illegible] environmental management, as much as possible, the [illegible] [illegible] should be sprayed in early spring to kill the female mosquitoes emerging from hibernation. [illegible] large rice paddies where the application of insecticides is not practicable, [illegible] of shallow irrigation, intermittent irrigation, raising domestic [illegible], etc., are all helpful in controlling the multiplication of larvae. In some places, the method of spraying animal shelters or all other [illegible] may be adopted. The choice should depend upon the local condition, the season of occurrence of mosquitoes, and the different sites of multiplication.

[illegible] Attention should be given to drug resistance. In some places, mosquitoes of An. sinensis are resistant to DDT, BHC, malathion and Shamingsong; therefore, when a chemical control technique is adopted, attention must be given to the sensitivity of these mosquitoes to the chemical applied and there should also be a plan to use all kinds of insecticides to prevent or retard the occurrence of resistance.

[illegible] Attention must be given to reducing the contact between men and mosquitoes. When An. sinensis is controlled, the work of mosquito prevention must [illegible] [illegible] the use of mosquito nets, for example. Such methods are [illegible] for reducing malaria transmission.

[illegible] the control of An. dirus, spraying is still the basic technique at present. [illegible] experiments demonstrate that the effects of spraying [illegible] trees, [illegible] and streams surrounding a village (within an area of [illegible]) are [illegible]. This technique should be studied further. [illegible], however, the fundamental method remains [illegible] in combination with production development. Moreover, [illegible] participating in activities in forest areas and [illegible] should not be neglected.

[illegible] An. minimus and An. anthropophagus, the technique of spraying [illegible] at present, but in Hainan Island, attention must [illegible] groups and their change of habits.

[illegible] accomplished in China in the prevention and control of malaria [illegible] urgent problem at present is the control of [illegible] many difficulties exist in this area, we [illegible] the [illegible] should start with [illegible] gradually. [illegible] systematic [illegible] malaria prevention and control [illegible] China can be resolved, some beneficial [illegible].

FOOTNOTES

1. Malaria Research Office, Shanghai Research Institute of Parasitology: [illegible] Research Data on Malaria, Volume of Mosquito Prevention [illegible], [illegible] pp 36-44.

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[illegible]

MEASLES OUTBREAKS, IMMUNIZATION PROGRAMS REPORTED

Analysis of Relationship

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 261-262

[Article by Dai Desheng [2071 1795 3932] et al. of Liaoning Provincial Public Health and Epidemic Prevention Station]

[Summary] This paper reports an analysis of the relationship between measles immunization and outbreaks. Of the 95 cases studied, more than half had not received measles vaccine. Serum 2ME sensitivity tests were performed to compare the antibody reaction. In most cases, the specific antibodies were mainly IgM, hence regarded as first-time infection. A comparison of clinical symptoms and complications of cases of first time antibody reaction and those of second time antibody reaction demonstrates the latter to be milder. The possibility of contracting measles after receiving the vaccine and the mechanism of the milder clinical expressions are briefly discussed.

Problems of Inoculations

Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 263-265

[Article by Su Wannian [5685 8001 1628] et al. of Beijing Research Institute of Bioproducts]

[Summary] Since attenuated live measles vaccine was extended in 1965, a great deal has been accomplished. In some counties, there has not been a single case for several years. Judging from the condition of the entire country, the development of measles prophylaxis is very uneven. In some provinces, its incidence is still No 4 among all acute infectious diseases. The following are possibly the reasons: (1) A low rate of inoculation: Among the 1,127 cases of measles with pneumonia in Beijing Infectious Diseases Hospital No 2, in 1976-80, 67.87 percent had not received vaccine. (2) Lack of refrigeration, improper storage, etc. cause the vaccine to be unstable; (3) Improper dosage and inoculation technique; (4) Unsuccessful inoculation of infants under 8 months of age; (5) 3-5 percent of commonly reported failures; (6) Gradual reduction and loss of immunity after initial immunization success. Measures to be adopted to resolve the above problems are suggested.

[illegible]

CSO: [illegible]

BRIEFS

ANALYSIS OF EPIDEMIC PNEUMONITIS--Since 1971, epidemic pneumonitis has been gradually recognized as an acute childhood infectious disease of the respiratory system. This paper is the first report of its occurrence in Hunan Province. The June-July 1972 epidemic in some communes of Cili County involved 14-36 percent of the children under 10 years of age. Surveys indicate that its incubation period is 1-6 days. The major symptoms include obstructive asthma, cough, fever, with headache, dizziness, and restlessness in some cases and abdominal pain and vomiting in a few cases. The fatality rate of this epidemic is 2.8 percent. Respiratory syncytial virus (RSV) is generally believed, here and abroad, to be the pathogen. A study in the region of Beijing has been reported. Pathogenetic data for the epidemic reported in the paper are not available, however. [Article by Li Xinkai [7812 1800 7030] [Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 266-267] 6248

CSO: [illegible]

PHILIPPINES

BRIEFS

MALARIA OUTBREAK POSSIBLE--The City Health office has warned residents here and neighboring areas against a possible outbreak of fever and malaria. Jovita Soloria, City Health officer, disclosed that at least six children are now confined in hospitals due to fever. Soloria urged city residents to observe cleanliness and sanitation in their homes to prevent the spread of fever. Another physician at the Northern Mindanao regional training hospital, this city, has expressed alarm over the fever of malaria cases recently. Dr. Patricio Velez said that a number of patients from the municipalities of Opol and Kinoguitan were confined in the hospital due to malaria. Health officials said that both fever and malaria can be transmitted from one person to another through mosquito bites. [Text] [Cebu City VISAYAN HERALD in English 1 Feb 83 p 7]

CSO: 5400/4375-E

PORTUGAL

ALENTEJO, ALGARVE REGIONS AFFECTED BY ENDEMIC GOITER

Lisbon DIARIO DE NOTICIAS in Portuguese 1 Feb 83 p 7

[Article by Antonia de Sousa]

[Excerpts] There is an extensive area of endemic goiter with some regions seriously affected in Baixo Alentejo and Algarve mountains, according to the conclusions of a study on "Endemic Goiter in the South of Portugal", recently awarded the second Pfizer research prize.

The prevalence of this endemic disease, which reaches levels of 35 percent in elementary schools, recommends according to the team that conducted the investigation, the distribution of iodized salt in the Saboia and Santa Clara-a-Velha parishes in Odemira municipality; the Ourique and Santana da Serra parishes of Ourique municipality; the Gomes Aires, Santa Clara-a-Nova, Santa Cruz and S. Barnabe parishes of Almodova municipality; and Alferce parish of Monchique municipality; and finally, in the S. Marcos da Serra parish in Silves municipality.

This endemic disease is related to the lack of iodine and other goitrogenic factors, according to the researchers who intend to make a survey in other, also affected, areas namely, in Portalegre district. They admit that with this second research there may be the possibility of finding clues to the nature of eventual goitrogenic factors by means of comparison of geological differences of that district with the already studied regions. They point out, on the other hand, the need to investigate food as well as to research goitrogenic activity in the food of greater consumption.

Reason for the Investigation

[illegible], one of the prize-winning researchers, speaking about the reasons for the initiative said: "It is very important to have a map of endemic goiter."

[illegible] "It is true that goiter does not have physiological implications [illegible] and it is general it is not universal. Sometimes there are [illegible] function, there is compression, and that brings problems. [illegible] problems is that the malignant tumors of the thyroid go [illegible] where everyone has a goiter on the neck."

There is another reason why goiter should be combatted. "The most serious complication, from the social point of view, is that in the most affected regions retarded children appear. The good functioning of the thyroid is basic for development in the first years of life and in these cases becomes nutritional deficiency during that critical time of life!"

Cretinism, from the clinical point of view is serious, but it is more serious from the social point of view. "In the population most seriously affected in the Vieiros region there is 10 percent cretins."

The Luis Sobrinho team detected 3 percent of cretins in the adult population in the more remote regions, namely "at the junction of five municipalities: Almodovar, Ourique and Odemira, and more toward the south, in the northern portion of Silves and Monchique municipalities," he said.

LEPROSY INCIDENCE REPORTED; TREATMENTS NOTED

Dakar LE SOLEIL in French 31 Jan-1 Feb 83 p 6

[Article by A. Barry: "16,143 Lepers Under Treatment in Senegal"]

[Text] At the end of 1981, 16,143 lepers had been counted in Senegal, and [illegible],000 new cases are registered every year. It goes without saying that this figure is below the actual one. A systematic search would reveal a larger number of sufferers. It should nevertheless be noted that an increasing number of people are going to the Great Epidemics Service as soon as they see [illegible] on their bodies. A search is made difficult by the nature of the illness, which is transmitted very slowly.

The treatment of leprosy is entrusted in Senegal to the Great Epidemics Service, which has 4 centers distributed throughout all the regions of the country. This sickness has an unequal distribution. At Louga there [illegible] per 1,000 inhabitants, in the Sine-Saloum 3.4 per 1,000, and [illegible] per 1,000.

Despite the [illegible] undertaken since the 1950's, leprosy remains one of the most widespread diseases in our country. Can it not be cured? The delayed [illegible] sulfones proposed in the early 1940's still inspire great [illegible] of injection makes mass campaigns possible, particularly [illegible] countries. It must, however, be admitted today that while [illegible] rendered great service, their use has not given the [illegible] anticipated. We have witnessed the appearance of [illegible].

[illegible] particularly of the sulfones, other medicines [illegible] almost a year, at the recommendation of the World Health Organization, the Great Epidemics Service has been testing new medicines [illegible] several antibiotics. Treatment with these new medicines [illegible].

[illegible] this experiment, the results are encour- [illegible] leprosy is cured in 6 months. But it [illegible] it is an experiment. At least 2 years were [illegible] treatment with the old drugs. The treatment of sufferers afflict- [illegible]

These patients must care for themselves all their lives, which is why those responsible for the new experiment think that the costs are not as high as one might think. It must nevertheless be emphasized that the new experiment imposes many limitations.

The drugs cannot be used in any which way. The patient must report in person each time so that the experts can be sure that he can correctly take his drug.

Along with the Great Epidemics Service, the Dakar Institute of Applied Leprology, a foundation of the Order of Malta, has existed since 1976. In addition to its role of education on the subject of leprosy, the institute handles coordination at the national level in collaboration with the Great Epidemics Service. It is also a center of research and treatment. The Great Epidemics Service sends particularly serious cases to it. The institute also performs surgery to make it possible to recover the use of a limb, for example.

END

CSO: [illegible]

BRIEFS

QUEENSTOWN CHOLERA OUTBREAK--Queenstown--Eleven people with cholera and two suspected of having the disease are in the Frontier Hospital, Queenstown. It said people in the area had again been urged not to drink water not treated with a special solution available from clinics. To warn people about this, the Department of Health had dropped from the air information leaflets over a large area. The leaflets had also been handed out at schools and the department's staff were prepared to deal with any fresh cholera outbreak, reports said. [Text] [Johannesburg THE CITIZEN in English 22 Feb 83 p 3]

TRANSKEI CHOLERA DEATHS--Umtata--Three deaths out of a total of 264 cholera cases had been confirmed in Transkei since the beginning of the year, the director of Health Services and assistant secretary professional, Dr G Solleder, announced yesterday. Late last year--when 53 confirmed cholera cases were reported after Christmas on the Wild Coast--Dr Solleder warned holidaymakers to take strict preventative measures against infection and the spread of the disease. [Text] [Johannesburg THE CITIZEN in English 23 Feb 83 p 10]

[illegible] CHOLERA [illegible]--Durban--Cholera has caused another death in Natal and [illegible], in the eastern Cape. It has also caused the closing of [illegible] High School. A Black man from a mission area in [illegible] district died from the disease, a State Department of Health [illegible] yesterday. At present 10 Nongoma High School pupils are [illegible] treatment for cholera in a local hospital. One hundred and [illegible] treated in the last few weeks. In KwaZulu last week 788 [illegible] were admitted to hospital and in Natal 648 new cases were reported. [illegible] 28 people have died of cholera in KwaZulu and Natal. [illegible] CITIZEN in English 19 Feb 83 p 8]

[illegible] people treated for cholera in South Africa [illegible] start of the epidemic in August last year. Of [illegible] treated cases, 1 761 had been bacteriologically proven, [illegible] Department of Health and Welfare said in Pretoria yesterday. [illegible] latest epidemic. In KwaZulu [illegible] treated for the disease, in Transkei 88 cases have [illegible] [Text] [illegible] English [illegible]

CHOLERA TOLL--The number of people treated for cholera in South Africa had risen to 9 200 since the start of the epidemic in August, a spokesman for the Department of Health and Welfare said in Pretoria yesterday. Of these 9 200 cases which had been clinically treated, 1 761 had been bacteriologically proven, he said. Twenty-three people have died from the epidemic in South Africa. In KwaZulu 1 557 people have been treated for the disease in Transkei 88 cases were reported and in KaNgwane 30 cases were confirmed. The spokesman said no more deaths had been reported over the past week.--Sapa. [Text][Johannesburg THE CITIZEN in English 16 Feb 83 p 3]

NONGOMA CHOLERA OUTBREAK--The KwaZulu "government" is looking into conditions at the Mlokothwa High School in the Nongoma area where 700 students were sent home after an outbreak of cholera. According to the KwaZulu Secretary Secretary for Education, Mr M. Ndlovu, 129 schoolchildren were affected by cholera and treated at Mlokothwa. Mr Ndlovu said nine of these students were still very ill. Mlokothwa High had to be closed temporarily when cholera suddenly broke out and 700 children were sent home as authorities feared that other students might contract the disease. He said the Government was still inspecting conditions at the school at which there was a shortage of water. Mr Ndlovu said the water shortage affected ablution and sanitary facilities at the school which in turn caused cholera. "We shut the school thinking that kids might be safer at home." The KwaZulu senior health inspector has warned parents to keep the children indoors and they should not be allowed to visit neighbours, relatives or friends. The health authorities said all the 700 students at the Mlokothwa school had been exposed to the cholera infection and were thus regarded as suspect cases of the disease. Mr Ndlovu, in the Ministry of Education, said the school would be re-opened as soon as authorities had satisfied themselves that it would be safe to do so. [Text] [Johannesburg SOWETAN in English 24 Feb 83 p 2]

[illegible]

SPAIN

FLU EPIDEMIC STRIKES BARCELONA

[illegible] YA in Spanish 30 Jan 75 pp 1, 25

[illegible] influenza these days is reaching its most intense phase. That, together with the alarming air pollution index at this time is causing among the Spanish people, especially in the provinces of Barcelona and Valencia grave injury, which in sickly persons or older people, strongly affects their respiratory system.

Although as of yesterday there was no notice of a fatality, it is certain that hospitals, clinics and doctors' offices are crammed with patients, and on occasion the personnel--medical as well as administrative--is insufficient.

In Barcelona the situation has been classified as "so grave" that the civil [illegible] the putting into effect of strong antipollution measures.

[illegible] according to Health Ministry sources, influenza is abating and in [illegible] caused more difficulties than those since 1968, many emergency services of various hospitals are saturated because of the influx which is [illegible] of respiratory problems caused by the slow increase in air pollution.

[illegible] all hospital beds are in use because of the influenza epidemic. Navarre and Barcelona Province have also suffered greatly from the effects of [illegible]. The Clinical Hospital of Barcelona is full, especially with emergencies, of people affected by air pollution. There were not enough [illegible] doctors to attend to the constant inflow of patients with pulmonary and respiratory problems. The province has also suffered these effects. [illegible], the health clinic is overflowing with people complaining [illegible] this year the outbreak has been more extensive than [illegible].

[illegible] in Barcelona that possibly anti- [illegible] immediately into effect in the districts of the [illegible] certain companies to use fuels with a low pollution [illegible] operating schedule [illegible] systems and the regulat- [illegible].

Santiago Turin advises that in order to study the situation there was a meeting in the office of the Barcelona civil government of the subcommittee of environmental affairs, presided over by the governor himself, Ferran Cardenal, and joined by the provincial commission, the provincial boards of Industry and Energy, Health and Social Security, Agriculture, Treasury, Culture, Public Works, ICONA [National Institute for the Preservation of Nature], the Weather Bureau, the Water Commission and the regional bureau of Highways and Ports.

In a later press conference it was [illegible] that the [illegible] and the displacement of the high pressure area toward Portugal, as well as there being no thermal inversion situation, allows the immediate future to be viewed with definite optimism. That some of the potentially polluting companies are using alternate fuels at this time [illegible] the situation.

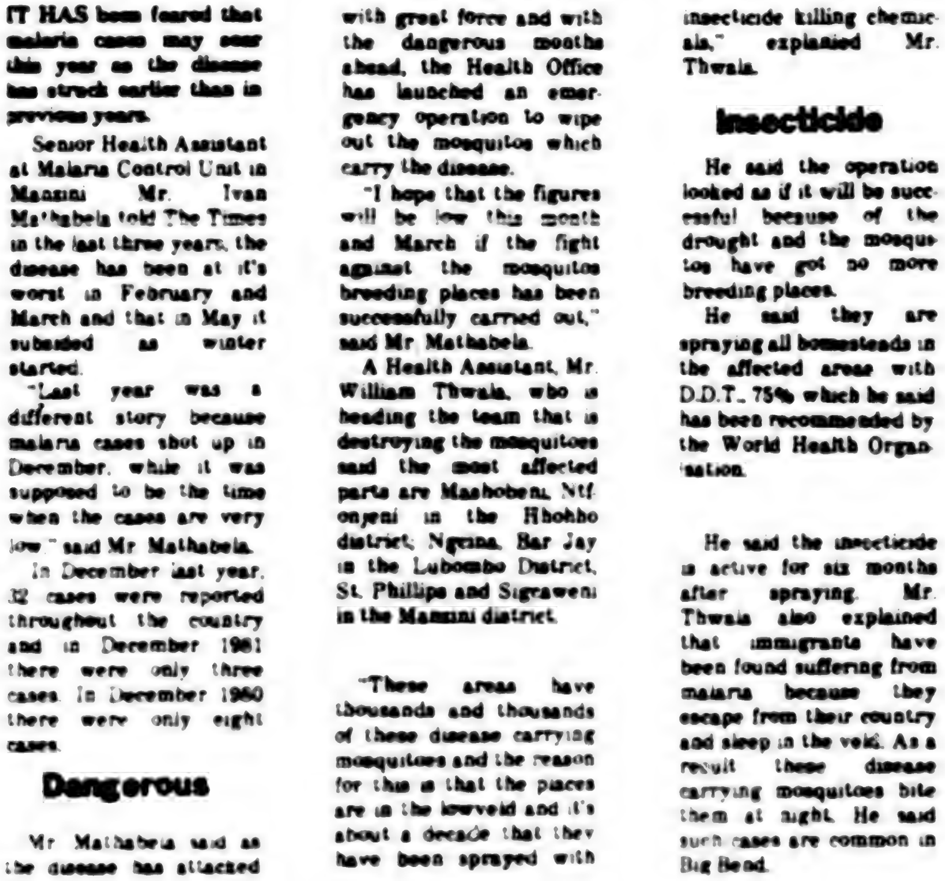
9675
CSO: [illegible]

EARLY MALARIA BRINGS NEW FEAR

Mbabane THE TIMES OF SWAZILAND in English 10 Feb 83 p 3

[Article by Vusie Gamedze]

[Text]



IT HAS been feared that malaria cases may soar this year as the disease has struck earlier than in previous years.

Senior Health Assistant at Malaria Control Unit in Manzini Mr. Ivan Mathabela told The Times in the last three years, the disease has been at it's worst in February and March and that in May it subsided as winter started.

"Last year was a different story because malaria cases shot up in December, while it was supposed to be the time when the cases are very low," said Mr Mathabela.

In December last year, 32 cases were reported throughout the country and in December 1981 there were only three cases. In December 1980 there were only eight cases.

Dangerous

Mr Mathabela said as the disease has attacked with great force and with the dangerous months ahead, the Health Office has launched an emergency operation to wipe out the mosquitos which carry the disease.

"I hope that the figures will be low this month and March if the fight against the mosquitos breeding places has been successfully carried out," said Mr Mathabela.

A Health Assistant, Mr. William Thwala, who is heading the team that is destroying the mosquitoes said the most affected parts are Mashobeni, Ntfonjeni in the Hhohho district; Ngcina, Bar Jay in the Lubombo District, St. Phillips and Sigraweni in the Manzini district.

"These areas have thousands and thousands of these disease carrying mosquitoes and the reason for this is that the places are in the lowveld and it's about a decade that they have been sprayed with insecticide killing chemicals," explained Mr. Thwala.

Insecticide

He said the operation looked as if it will be successful because of the drought and the mosquitos have got no more breeding places.

He said they are spraying all homesteads in the affected areas with D.D.T., 75% which he said has been recommended by the World Health Organisation.

He said the insecticide is active for six months after spraying. Mr. Thwala also explained that immigrants have been found suffering from malaria because they escape from their country and sleep in the veld. As a result these disease carrying mosquitoes bite them at night. He said such cases are common in Big Bend.

[illegible]

MALARIA PANEL REPORTS DISEASE SPREADING TO HIGHER ALTITUDES

Dar es Salaam DAILY NEWS in English 2 Feb 83 p 3

[Text] The anti-malaria drug chloroquine does not cause blindness unless taken in big amounts over a very long period, the Executive Secretary of the Tanzania Public Health Association, Dr. C. M. Kihamia, said in Dar es Salaam yesterday.

Dr. Kihamia was clarifying reports that the drug caused blindness. He said there was no cause for fear and that the drug had proved quite effective in treating the disease for a very long time. He however cautioned that proper administration of the drug was vital.

Speaking in a panel discussion on "Malaria in the 1980s" held at the University of Dar es Salaam council chambers, he told the participants that any resistance to the drug by malaria parasites was not an unusual phenomenon in the world of medicine.

The Director-General of the National Institute for Medical Research, Professor W. L. Kilama, however conceded that malaria was on the increase in the country due to increased mosquito breeding.

He said the disease was spreading into higher altitudes due to change of ecology.

Professor Kilama, who talked on vector (mosquito) control in the country, argued that the integration of malaria control into the general health services after independence has had a negative effect and that specialists on malaria were dwindling with time.

Participating in the discussion, Dr. A. D. Kiwara of the Institute of Development Studies at the University warned that malaria was more of a social problem which needed a social rather than technological solution.

He stressed the need for mass mobilisation of the people, saying the people must be the producers of their own health as control of the disease lay "beyond elite specialists."

He also suggested an intersectoral approach to [illegible] instead of [illegible] [illegible].

Stressing that "the health of a person is a product of his own living conditions," Ndugu Kiwara said the disease was rampant among the poor whose [illegible] condition had to be improved.

Earlier, the Director of Preventive Services in the Ministry of Health, [illegible] A. Mzeni, told the meeting that there was a notable dwindling of funds for preventive services as well as a general decrease in community participation in the control of the disease.

He also said that decentralisation in 1974 caused a negative influence in the control of malaria in the country.

Malaria resistance to chloroquine is known to be widespread in South East Asia and South America. In East Africa, it is a recent phenomenon whose extent and degree is still unknown and yet to be documented.

Of the four types of malaria known, plasmodium faciparum also termed " malignant malaria" is the most common and deadly in Tanzania, with 90 per cent of malaria patients being its victim.

Other types are plasmodium vivax, plasmodium malariae and plasmodium [illegible]. These are mild.

The meeting drew participants from among University students, lecturers and [illegible] outside the Hill.

[illegible] STEPPED UP CHOLERA CONTROL

Dar es Salaam DAILY NEWS in English 4 Feb 81 p 3

[Text]

FIVE regions — Dodoma, Shinyanga, Mbeya, Kilimanjaro and Arusha have been urged to step up efforts to control cholera and other epidemics.

The Director of Preventive Services in the Ministry of Health Dr A.Y. Mgeni, said in Dar es Salaam on Wednesday that non-use of latrines, consumption of impure water and unhygienic social interactions were the breeding grounds for such diseases.

Stressing that curative measures would not eradicate cholera, the director urged regional authorities to step up preventive measures on communal basis.

He said cholera and other epidemics could be controlled through social or community medicine and not [illegible] medicine as practised at present.

Dr Mgeni said this called for mass participation in primary health care as well as a multi-sectoral approach to the general health problems.

The director was commenting on reports that the killer disease resurfaced in Dodoma Region two weeks ago killing 10 people at [illegible], Mpwapwa District.

According to *Shihata*, the disease broke out after heavy rains in the district. Some [illegible] other victims were being treated at Msagali health centre and Mpwapwa District Hospital.

Mpwapwa Area Commissioner, Ndugu M.M. Shekalaghe, told the Minister for Health, Dr Aaron Chiduo, on Wednesday that measures were being taken to control the disease within one week.

The minister is touring Dodoma Region to inspect areas hit by cholera.

Meanwhile, six people have died of dysentery in Chunya District, Mbeya Region. *Shihata* said that one death was reported at Ifumba dispensary while five others died at home.

Chunya Area Commissioner Musobi Mageni said the disease surfaced at Ifumba Village on December 12, last year, and by January 22, some 59 victims had been treated at the village dispensary.

MINISTER, MEDICAL OFFICER COMMENT ON CHOLERA SITUATION

Dar es Salaam DAILY NEWS in English 7 Feb 83 p 3

[Text]

CHOLERA will still persist in the country and especially in Dodoma if concerted efforts [illegible] sanitation, the Minister for Health, Ndugu Aaron Chiduo said [illegible] in Dodoma last week. [illegible] Ndugu Chiduo said [illegible] should be [illegible] and eliminated [illegible] sanitation.

He said [illegible] people [illegible]

So long as there is no [illegible] coordination of efforts [illegible] the different [illegible] cholera will [illegible] the disease [illegible]

[illegible] Ndugu Chiduo said [illegible] the Mpwapwa District [illegible] the other parts of the region have yet to establish an effective system to combat cholera.

He said [illegible] Dodoma Urban and Rural [illegible] the region [illegible] cholera outbreaks [illegible] to whom was actually responsible for sanitation of Dodoma town between the Municipal Authority and the regional administration.

"One remains uncertain as to who is actually responsible amongst the three authorities. This is a very big draw-back in efforts to combat cholera", Ndugu Chiduo said.

He said that unlike other districts, Mpwapwa was better organised for delivery [illegible] health services. There was better team work between the Party, health workers and district authorities.

Ndugu Chiduo also pointed [illegible] other major health problems unique in the region were trachoma and other eye complications caused by vitamin A deficiency.

DODOMA -- [illegible] Kondoa [illegible] Dodoma Region [illegible]

The Kondoa District Medical Officer, Ndugu K. [illegible] region last week [illegible]

[illegible] which 175 [illegible]

BRIEFS

RABIES DEATHS, SPREADING OUTBREAK--Moshi--Four persons died of rabies at Huruma hospital in Rombo District, Kilimanjaro Region, it was learnt at the weekend. A SHIHATA despatch from Moshi said that the names of the deceased had not been disclosed but added that the diseased was spreading rapidly since its outbreak last December. Thirty people are undergoing treatment at the hospital and seventy others were treated and discharged. According to an official from the Area Commissioner's office in Rombo District; Ndg. Daniel Ngaile, the district had 4,000 dogs. Of these, 500 stray dogs had been killed. [Excerpt] [Dar es Salaam DAILY NEWS in English 7 Feb 83 p 3]

MKUNGWE VILLAGE CHOLERA DEATHS--Morogoro--Four people including a pregnant woman recently died from cholera in Mkungwe village in Mkuvuni Division, Morogoro Rural District. District Medical Officer J. Temba said in Morogoro yesterday that 18 people are being treated at cholera control centres at Mkungwe and Tawa. Dr. Temba said the disease had also struck [illegible] village in Ngerengere where 10 people have been affected so far. The doctor said this was the second time the disease had broken out in Mkungwe, where it claimed some lives four years ago. He underlined the need to further maintain safeguards. [Excerpt] [Dar es Salaam DAILY NEWS in English 2 Feb 83 p 3]

[illegible] MEASLES DEATHS--Urambo--The number of children who died of measles at [illegible] village in Urambo District, Tabora Region, has now reached [illegible]. A [illegible] team which went to the village and stayed there for two weeks returned to Urambo at the weekend and reported that the disease [illegible] had left some medicine at [illegible] health centre [illegible]. Residents of Urambo District have been advised to send their [illegible] to health centres immediately they develop high fever. [Excerpt] [Dar es Salaam DAILY NEWS in English 7 Feb 83 p 3]

[illegible] RABIES PRECAUTIONS--The people of Kilimanjaro Region have been [illegible] to take precautionary measures against rabies which have been [illegible] the region since last May. The call was made in Moshi last Friday by the Regional Veterinary Officer Ndugu [illegible] Tesha, following the death of four people in Rombo District's Huruma Hospital. Ndugu Tesha said the [illegible] imposed since last year was still in force, stressing that anyone wanting to take a dog in or out of the region must get the permission of the [illegible]. [Excerpt] [Dar es Salaam DAILY NEWS in English [illegible]]

CSO: [illegible]

STRAY DOGS TO BE ELIMINATED IN ANTI-RABIES CAMPAIGN

Kampala UGANDA TIMES in English 31 Jan 83 pp 1, 8

[Article by Sam Obbo]

[Text] All stray dogs in and around Kampala suspected to be carrying rabies are to be eliminated starting this week.

The acting Commissioner of Veterinary Services and Animal Industry, Dr N.E. Masaba, disclosed over the weekend that the "dog bait poisoning drug" is to be flown from Brussels (Belgium) in a special plane to Uganda this week.

The drug has been donated by the European Economic Community (EEC) and this follows fears that a rabies epidemic might break out due to increasing stray dog bites around the city and its suburbs.

According to reports at least more than ten people have been eaten up and many others bitten by these dogs in the past few weeks.

Dr Masaba said the authorities were highly concerned about "this fateful state of affairs" and added that the Veterinary staff in conjunction with the Police would do their best to eliminate these dogs.

But he cautioned that the exercise would only be executed successfully if the general public offered maximum cooperation.

"Rabies is the most feared disease in the zonosis class because there is no known drug that can cure it once it has matured," Dr Masaba explained.

He stressed that the public ought to offer maximum cooperation by reporting hideouts of these dogs.

He advised those who have been bitten by dogs to report for immediate treatment, observing that if the dog had rabies the disease takes six months to mature and if no immediate medical treatment is given there would be nothing doctors can do for the victim.

The commissioner cautioned some members of the public who have the habit of feeding from the dustbins to stop it because most of the rabid dogs feed from there.

He noted that during a vaccination campaign carried out last year over 16,000 dogs and 60 cats were "served" but the stray dogs and those from uncooperative owners were not.

He added that as a result some of these dogs might have been in contact with wild animals like jackals and foxes which usually transmit the disease.

"But I would like to assure the public that with their cooperation we shall eliminate these nuisance and dangerous dogs."

Dr Masaba also warned those who Had not taken their dogs for vaccination to do so immediately.

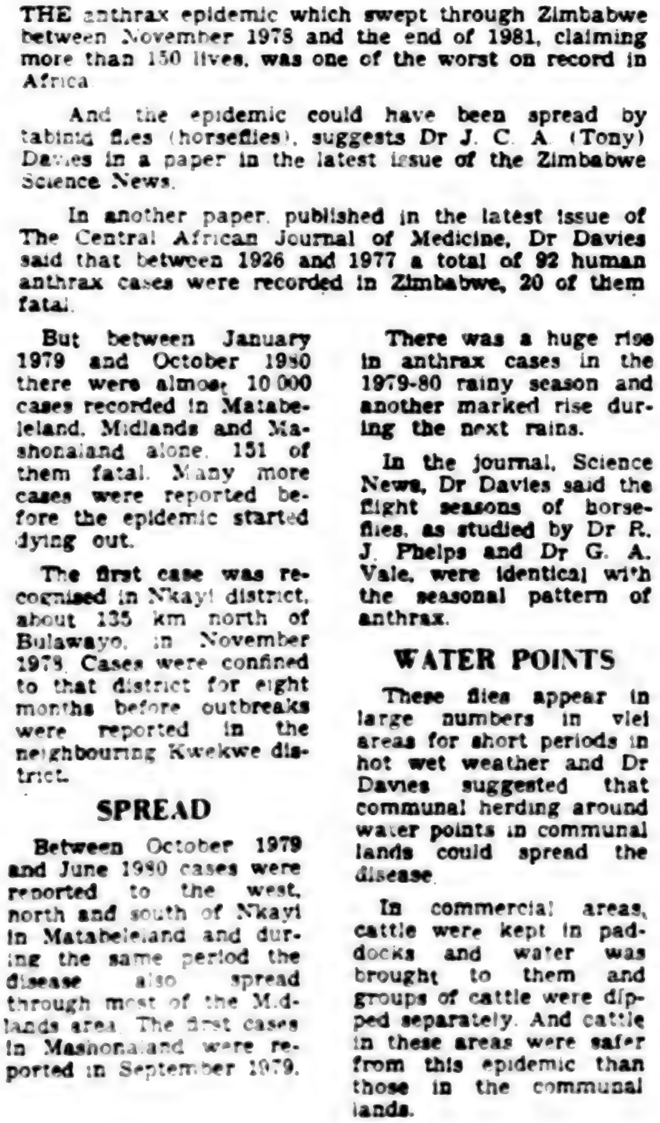
"The vaccine which is free protects the dog for three years," he said.

CSO: 5400/166

ANTHRAX EPIDEMIC WAS ONE OF AFRICA'S WORST

Harare THE HERALD in English 2 Feb 83 p 4

[Text]



THE anthrax epidemic which swept through Zimbabwe between November 1978 and the end of 1981, claiming more than 150 lives, was one of the worst on record in Africa.

And the epidemic could have been spread by tabinid flies (horseflies), suggests Dr J. C. A. (Tony) Davies in a paper in the latest issue of the Zimbabwe Science News.

In another paper, published in the latest issue of The Central African Journal of Medicine, Dr Davies said that between 1926 and 1977 a total of 92 human anthrax cases were recorded in Zimbabwe, 20 of them fatal.

But between January 1979 and October 1980 there were almost 10 000 cases recorded in Matabeleland, Midlands and Mashonaland alone, 151 of them fatal. Many more cases were reported before the epidemic started dying out.

The first case was recognised in Nkayi district, about 135 km north of Bulawayo, in November 1978. Cases were confined to that district for eight months before outbreaks were reported in the neighbouring Kwekwe district.

SPREAD

Between October 1979 and June 1980 cases were reported to the west, north and south of Nkayi in Matabeleland and during the same period the disease also spread through most of the Midlands area. The first cases in Mashonaland were reported in September 1979.

There was a huge rise in anthrax cases in the 1979-80 rainy season and another marked rise during the next rains.

In the journal, Science News, Dr Davies said the flight seasons of horseflies, as studied by Dr R. J. Phelps and Dr G. A. Vale, were identical with the seasonal pattern of anthrax.

WATER POINTS

These flies appear in large numbers in vlei areas for short periods in hot wet weather and Dr Davies suggested that communal herding around water points in communal lands could spread the disease.

In commercial areas, cattle were kept in paddocks and water was brought to them and groups of cattle were dipped separately. And cattle in these areas were safer from this epidemic than those in the communal lands.

CSO: 5400/157-E

TRAINING CENTER AT MOUNT HAMPDEN HIT BY TYPHOID

Harare THE HERALD in English 18 Feb 83 p 1

[Article by Caroline Allen]

[Text] AN outbreak of typhoid has been reported to the Mashonaland Provincial Medical Officer of Health, Dr Tony Sang, from the Mount Hampden Training Centre, 20 km west of Harare.

The outbreak occurred last week when a septic tank overflowed into the training centre's borehole and contaminated it.

Dr Sang said yesterday that the outbreak had been dealt with immediately because the problem was detected early.

The Department of Water Development had connected the training centre to uncontaminated Harare supply lines and the borehole would no longer be used.

About half the people at the training centre have been affected.

As the cases were diagnosed they were sent to Harare, Wilkins, Beatrice Road and Parirenyatwa hospitals. Those at Harare and Parirenyatwa were later transferred to isolation wards at Wilkins and Beatrice Road.

There are believed to be another 10 people in isolation and convalescence at the training centre.

"Typhoid is always with us—every month there are reports from all over Mashonaland, and this is not unusual," said Dr Sang. "What is unusual is that it broke out in an institution."

He said there was no danger of it spreading.

Spokesmen for two companies which operate brickfields said they had no reports of unusual numbers of absentees among the workers.

There had been no reported cases from the Mount Hampden clinic either. Those from the training centre were being treated in Harare because the disease was highly infectious.

Another area of concern was the small camp of 30 squatter families next to the Mount Hampden Store. However, there appeared to be no cases there, according to the store owner whose facilities the people use.

The training centre was converted from the old Mount Hampden Motel, and is now under the Ministry of Youth, Sport and Recreation. The ministry runs two-year trade courses for both men and women.

CSO: 5400/176

SHEEP FROM DROUGHT AREAS IN EAST FOUND WITH FOOT ROT

Perth THE WEST AUSTRALIAN in English 22 Dec 82 p 3

[Text]

SIX hundred sheep sent to WA from drought-hit farms in the Eastern States were slaughtered because some had footrot.

Another two sheep—valuable stud rams—were found to be mildly infected. But they have received treatment and are being kept on wet bags at Bunbury for 30 days to confirm that the disease has been cured.

The chief of the Agriculture Department's animal-health division, Mr J. Armstrong, said yesterday that the slaughter decision was taken when seven sheep out of 200 examined were found to be infected.

"We did not count the rest, but on that basis we estimate an overall infection of about 20 sheep in the 600," he said.

So far 117,000 sheep have been brought into WA from drought-affected areas of the Eastern States since early September.

Treated

Five other rams—brought to WA with the two now being treated—were given a preventive foot-bath at Kalgoorlie and released to their owners under a 12-month surveillance requirement.

Mr Armstrong said he was aware of some public concern at this action.

But in special cases where the footrot was mild, the animals could be treated successfully.

"It would have been wasteful and unnecessary to slaughter these stud animals," he said.

Two State MPs have accused the State Government of gross irresponsibility in allowing sheep affected by footrot into WA.

Mr Julian Grill (Lab, Yilgarn-Dundas) and Mr J. Brown (Lab., South-East Province) said that allowing such sheep into WA jeopardised the State's security against the disease.

The MPs said that there must be some risk in the five rams carrying the disease.

They urged the Government to put a complete ban on the entry into WA of consignments of sheep with animals infected by footrot.

The Minister for Primary Industry, Mr Old, said: "We cannot stop sheep coming into the State so there must always be a danger of diseases being imported."

He said he was satisfied with the control and quarantine measures taken to protect the WA sheep industry. The attack by the two MPs cast a slur on the Agriculture Department.

Efficient

"They have proved to be very efficient," he said.

Footrot was widespread in WA in the 1950s, particularly in the high-rainfall areas.

An eradication programme since then has reduced the problem to fewer than 10 farms being infected at any one time.

These are kept under quarantine till cleared.

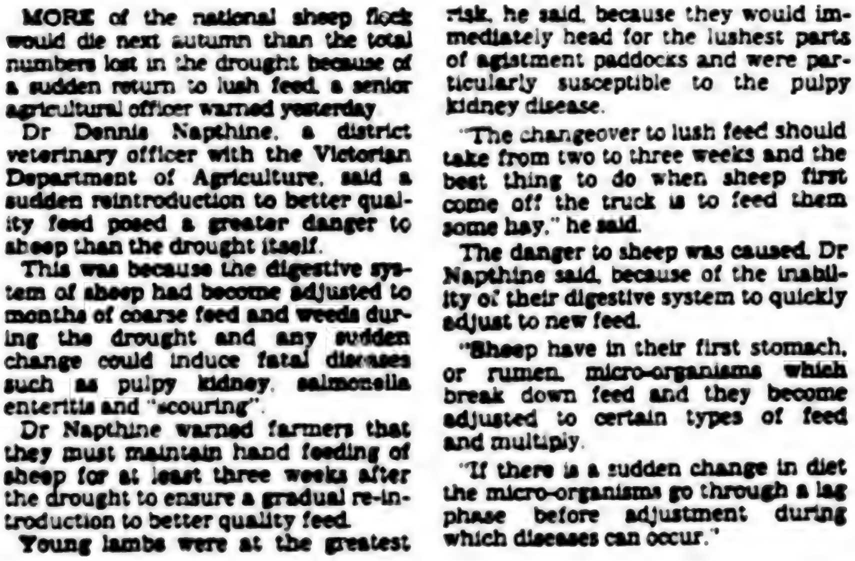
Footrot can have a serious effect on stock if unchecked, ultimately rendering them immobile.

SHEEP THREATENED BY SWITCH TO LUSH AUTUMN FEED

Canberra THE AUSTRALIAN in English 17 Dec 82 p 2

[Article by Paul Lynch]

[Text]



MORE of the national sheep flock would die next autumn than the total numbers lost in the drought because of a sudden return to lush feed, a senior agricultural officer warned yesterday.

Dr Dennis Napthine, a district veterinary officer with the Victorian Department of Agriculture, said a sudden reintroduction to better quality feed posed a greater danger to sheep than the drought itself.

This was because the digestive system of sheep had become adjusted to months of coarse feed and weeds during the drought and any sudden change could induce fatal diseases such as pulpy kidney, salmonella enteritis and "scouring".

Dr Napthine warned farmers that they must maintain hand feeding of sheep for at least three weeks after the drought to ensure a gradual re-introduction to better quality feed.

Young lambs were at the greatest risk, he said, because they would immediately head for the lushest parts of agistment paddocks and were particularly susceptible to the pulpy kidney disease.

"The changeover to lush feed should take from two to three weeks and the best thing to do when sheep first come off the truck is to feed them some hay," he said.

The danger to sheep was caused, Dr Napthine said, because of the inability of their digestive system to quickly adjust to new feed.

"Sheep have in their first stomach, or rumen, micro-organisms which break down feed and they become adjusted to certain types of feed and multiply.

"If there is a sudden change in diet the micro-organisms go through a lag phase before adjustment during which diseases can occur."

CSO: 5400/7544

BRIEFS

LIVER FLUKE HOST--A type of aquatic snail that is an intermediate host to liver fluke, a serious parasite of sheep and cattle, has been found in the Harvey River. Agriculture Protection Board officers have begun a survey of rivers and ponds in farming areas from the Moore River to Albany to determine the spread of the snails. The APB's chief officer, Mr Neil Hogstrom, said that any liver flukes accidentally introduced to WA might spread throughout dariying areas. Liver fluke caused a severely debilitating disease, making animals anaemic and listless. Heavily infected animals often died. Mr Hogstrom said that the parasite could also infect horses and people. Stock in WA were free from liver fluke, but it had sometimes been found at slaughter in stock brought in from the Eastern States. Mr Hogstrom said that the liver fluke could not spread from one animal to another without spending part of its life cycle inside a lymnae snail. Lymnae snails had been introduced in WA some years ago, probably with aquarium plants. Till recently the snails had been found only in the metropolitan area. Mr Hogstrom said that the snails were about 11mm long and usually dark grey. When the apex of the snail's shell was pointed towards an observer, the shell coiled clockwise away from the centre. He urged anyone finding a snail with this distinctive shell in a farming area to get in touch with the APB. [Text] [Perth THE WEST AUSTRALIAN in English 21 Dec 82 p 14]

RYE GRASS TOXIN DEATHS--Poisonous toxins in rye grass have killed more than 300 livestock in WA this season. The officer in charge of the Katanning branch of the Department of Agriculture, Mr Joe Burdass, said yesterday that 3250 sheep and 14 cattle had died. He was reporting to the rye-grass action committee at Nyabing, 60km east of Katanning on the problem of annual rye-grass toxicity. Rye-grass toxicity has been reported this year on 63 properties, 38 of which have not previously reported outbreaks of infected stock. The problem has been persistent, with about 4000 livestock dying last season. The disease is a big problem at Gnowangerup, where 111 reports of outbreaks have been made since 1970. That figure includes properties where it has recurred annually. Since May, 10 Gnowangerup properties have reported their first outbreaks and nine properties with previous records also have reported outbreaks. They account for half this year's reports, with 31 other properties spread throughout the Great Southern. The rye-grass action committee will call a meeting of organisations within a few months to press for Commonwealth aid to research rye-grass toxicity. [Text] [Perth THE WEST AUSTRALIAN in English 20 Dec 82 p 33]

SICK CATTLE PROBLEM--Longreach--Veterinarians and stock inspectors, using helicopters and four-wheel-drive vehicles, are shooting hundreds of thousands of cattle in a nationwide program to rid Australia's beef herds of brucellosis and tuberculosis. The full extent of the program, which has been veiled in secrecy, became known yesterday amid charges of mass brutality. The brutality charges were denied by the Primary Industry Department Veterinary Services Director, Mr Ian Wells, and the district inspector of stock at Longreach, Mr Dick Law, who heads the program in that area. "Queensland and Australia have a huge investment in the cattle industry and it is threatend by these two diseases," Mr Wells said. "Our job is to de-stock any area where testing has shown they exist and the quickest and most humane way of doing it is by shooting. "Nobody is perfect. Men get tired and gun barrels become hot. But the operation is rigidly supervised and is as humane as possible." "Most of these animals are wild bush cattle, feral beasts which are diseased and drought-stricken anyway. "We've shot thousands of them; the program has been going on for three years now and is coming to a close." The department's two senior officers said the disease eradication program had been demanded by the main overseas importers of Australian beef: the United States, Japan and Korea. It was to be completed by 1984, by which time all but a few pockets of diseased cattle would have been eliminated. [Text [Brisbane THE COURIER-MAIL in English 24 Dec 82 p 2]

CSO: 5300/7544

SWINE FEVER OUTBREAK REPORTED IN COROZAL

FL120034 Bridgetown CANA in English 0012 GMT 12 Feb 83

[Text] Belize City, Belize, 11 Feb (CANA)--An outbreak of swine fever this week in the Corozal District of Belize has so far claimed 30 animals and the Ministry of Natural Resources has restricted movement of pigs in and out of the area.

Pigs within a radius of three miles from the village of San Joaquin in the Corozal District must not be moved, the government said.

The Corozal District has an estimated pig population of 7,000.

Dr Balmore Silva, chief veterinary officer in the Ministry of Natural Resources, today said that no pigs or pork products would be permitted to enter or leave the Corozal District and that all other necessary measures were being taken to contain the disease in the area.

CSO: 5400/2047

INCIDENCE OF RINDERPEST, CONTROL MEASURES NOTED

Ndjamena INFO TCHAD in French 28 Jan 83 p 3-5

[Text] ATP--the coordinator of the staff to combat rinderpest, Dr Abdel-Madjit Manamat Salen, has issued a report on the status of that threat. He recalled the first assistance visit by Mr Goffings 13-17 January that led to resupply of vaccines and establishment of vaccination stations at Karme, Am-Djamena Bilala, Ati, Koundjourou, and Abeche. That visit was followed up by the tour of the minister of livestock and rural water to Am-Timan, Ati, Abeche, and Guereda. He was accompanied by Dr Abdel-Madjit.

The visit enabled the minister to get a first-hand understanding of the situation and to educate the population on the danger of rinderpest. All the stations visited have been supplied with vaccines and technical equipment. Vaccination teams have been formed and are already in operation on site.

Reviewing the development of the disease, Dr Abdel-Madjit said that rinderpest, identified in areas on the Sudan border, had spread along the 13th parallel from Adre to Massaguet. From there it had reached as far as Ndjamena, where two cases were detected at Farcha abattoir. From the 13th parallel track, the disease branched off to the southest, where many concentrations continue to be identified, to the concern of the stockraisers. The Massaguet concentration was identified as early as 10 January 1983. The report is serious. According to information by traders, 264 out of a herd of 467 have died.

At Am-Timam (Salamat), the disease appeared in two villages 6 km from the town. A total of 137 animals have been affected, and 15 have died. This area actively responded to the danger. At the first signs of the disease, local officials, with the support of the livestock service, took the first, most urgent measures to isolate the sick cases, and formed a committee to combat cattle disease. A fund was collected. This enabled the committee to rent a gasoline-operated freezer to preserve the vaccines. Mobile teams will operate throughout the area thanks to the support of the administrative and business communities making their vehicles available to the livestock service. Dr Abdel-Madjit pointed out that the Salamat example is worthy of attention, because most of the work was done without waiting for help from Ndjamena.

The situation at Batha is more alarming than that in Salamat because the disease is tending to spread. There also, a fund was collected with the help of administrative and business groups. The terrified herdsmen literally invaded the veterinary section along with their herds. Vaccinations started a week before the arrival of the livestock minister. There were not sufficient personnel or refrigeration equipment. Some 20 concentrations of the disease were identified at Ati, where 367 deaths have been counted, at Koundjourou 52, at Djedaa 8, and at Yao (Lake Fitri) 440. In the last area, the disease is widespread.

At Abeche, as yet unconfirmed information reports numerous concentrations, with a mortality rate estimated at 35 percent. There also, significant steps have been taken to check the disease, but there are not enough people available currently to cover the area. Also, facilities to preserve the vaccine are almost nonexistent. At Guerida, the situation is catastrophic in all the localities on the Sudan border. The disease has spread everywhere, and deaths are in the hundreds.

In face of this situation, the livestock department is trying to mobilize the necessary means to combat this disaster. To this end, after the livestock minister's address on 11 January to ambassadors and representatives of international organizations, the office of coordination prepared a plan to cost 126 million that was presented to possible sources of financing. There was a discussion with the European Development Fund representative. A funds request for 70 million under the urgent aid category of the Lome II convention was submitted at the level of the Brussels Commission. The Aid and Cooperation Fund (FAC), as part of a project for southern Chad, provided 16 refrigerators. Since 10 January, 942,000 doses of vaccine have been distributed among Chari-Baguirmi, Batha, the geographic Ouaddai, Guera, Salamat, and Kanem (Moussoro). An estimated 160,227 vaccinations had been given by 20 January 1983. The World Food Program has provided 5,992 tons of food supplies to enable the teams on the spot to handle the feeding problems that are likely to develop.

[illegible]
CSO: [illegible]

AUTHORITIES DECLARE DENMARK FREE OF FOOT-AND-MOUTH DISEASE

Stockholm SVENSKA DAGBLADET in Swedish 15 Feb 83 p 31

[Text] Copenhagen, TIDNINGARNAS TELEGRAMBYRA and RITZAUS BUREAU. The Danish veterinary authorities on Monday [14 February] declared Funen to be free from foot-and-mouth disease. At that time, a month had passed since a case of the feared contagious disease was confirmed on a farm in Frauge [on the island of] Funen.

All restrictions on sales of fresh meat and meat products were thereby lifted, and slaughterhouses on Funen were allowed to recommence their operations. However, no live hoved animals can be transported from Funen before 14 March.

CSO: 5400/2520

BRIEFS

TAMAULIPAS HOG CHOLERA CONTROLLED--Ciudad Victoria, Tamps., 7 February--An outbreak of hog cholera, detected at the Barranco Azul communal farm in the town of San Carlos, which caused the death of 60 animals, was under control today after almost a month of efforts to control it, said Raul de la Garza Perez, director of the livestock department of the SARH [Secretariat of Agriculture and Water Resources]. [Article by Enrique Pedroza] [Text] [Mexico City EXCELSIOR in Spanish 8 Feb 83 p 27-A] 8255

CSO: 5400/2051

NEW ZEALAND

BRIEFS

PORK IMPORT BAN--New Zealand has acted swiftly to guard against the possibility of importing foot and mouth disease from Denmark by cancelling a permit for the importation of pork from that country. A fresh outbreak of foot and mouth disease in Denmark was announced yesterday. The permit cancellation was confirmed by the director of the animal health division of the Ministry of Agriculture and Fisheries, Dr George Adlam. He said, however, that a permit had been granted for another pork shipment because it would have left Denmark well before foot and mouth disease was diagnosed on the Danish island of Funen on January 13. Dr Adlam said that in enforcing bans on the importation of animals or meat products a 21-day disease incubation period was taken into account. Any meat products sent to New Zealand from Denmark after December 23 would be impounded on arrival pending a decision on disposal. New Zealand does not import any large quantity of Danish portk, but does bring some in periodically--a move that angers the New Zealand pig industry. [Excerpts] [Auckland THE NEW ZEALAND HERALD in English 19 Jan 83 p 1]

ANIMAL DISEASE MONITORING--The monitoring of diseases in farm animals will become less effective because the Government intends to cut financial support for Animal Diagnostic Services, says the president of Federated Farmers, Mr Rob Storey. This, he said, would put at risk New Zealand's meat exports worth $3500 million a year. As from next year, farmers will pay 30 percent of direct costs of the government diagnostic programmes, Mr Storey claimed. This measure would make it less likely that, when stock die, farmers would call in veterinarians to make a diagnosis of the cause of death. Mr Storey said it was necessary to maintain constant re-evaluation of animal disease eradication programmes. "New Zealand's food exports enjoy a sound reputation for quality in markets overseas but there is growing pressure on food exporters to meet tougher standards. New Zealand can, and must, meet this challenge." Mr Storey said the dangers of foot and mouth were widely acknowledged but it was not so well-known that New Zealand could be shut out of many export markets if it failed to achieve eradication targets in diseases such as brucellosis, tuberculosis and hydatids. [Text] [Wellington THE EVENING POST in English 29 Dec 82 p 5]

CSO: 5400/9098

BRIEFS

GERBILLIS LEISHMANIASIS IN DESERT RATS--Large desert rats (Rhombomys opimus) are distributed in the corridor region of Gansu, which is in the Temperate Zone, with desert-sands distributed in a scattered manner in and near the oases, of areas generally less than 1,000 km^2 each. In 1959, Leishmania protozoons were found for the first time from tissue smears of ears of these rats. They belong to a new strain, named Leishmania gerbilli Wang, Qu & Guan 1964, not pathogenic to men. In 1963-81, while carrying out a survey of kala-azar, the authors examined the rats of the 3 counties of Dunhuang, Shanduan, and Minqin and Leishmania was discovered, at rates of 1.7, 7.1, 15.6 and 50 percent. Further studies in search of vectors revealed that the dominant species of sandflies of these localities (Phlebotomus mongolensis) are the major vector, while in Minqin County Ph. andrejevi, another species of sandfly, may also play a part in spreading this disease among the desert rats. [Article by Liu Peichong [0491 0012 1504] et al.] [Beijing ZHONGHUA LIUXINGBINGXUE ZAZHI [CHINESE JOURNAL OF EPIDEMIOLOGY] in Chinese Vol 3 No 5, Oct 82 pp 304-305] 6248

CSO: 5400/4113

BRIEFS

CATTLE PNEUMONIA DETECTED--The Head Office of Cattle Operations of MAP [Ministry of Agriculture and Fisheries] has announced that in the councils of Moncao and Barcelos outbreaks of pneumonia in beef cattle were detected. Although we are dealing with a disease that is not transmitted to man, it is a disease that causes great mortality among cattle and is, therefore, a serious economic problem. The Head Office of Cattle Operations, after laboratory confirmation of the disease, has already initiated urgent measures to fight and eradicate this new outbreak of a disease that was already felt in Portugal over 30 years ago. In addition to slaughtering the affected animals and disinfecting corrals, the measures are: confiscation of beef products and restriction on cattle transportation in the Braga and Viana do Castelo districts. The Head Office of Cattle Operations explained that the owners will be compensated for the animals that had to be eliminated and appealed to the breeders and the public in general for full cooperation and asked them to immediately report suspected cases which appear and to apply rigorously the preventive measures and recommended treatment. [Text] [Lisbon O DIA in Portuguese 8 Feb 83 p 10] 11634

CSO: 5400/2518

MYSTERY DISEASE HITS CATTLE

Mbabane THE SWAZI OBSERVER in English 12 Feb 83 p 1

[Text]

TWENTY-three herds of cattle worth about E46 000, have died recently of an unknown toxin at the Tibiyo Taka-Ngwane dairy farm in Malkerns.

Dairy Project Manager, Mr D.C. Lindsay, said 47 cattle went sick simultaneously after feeding from one camp with Kikuyu grass.

"A number of the herd had been feeding on this one camp day and night when suddenly 47 of them, mainly pregnant cows, showed signs of sickness. They were salivating a lot, eyes sunken and had subnormal temperatures," Mr Lindsay said.

He said the animals had to be removed from this Kikuyu pasture because there were suspicions that maybe it had to do with it and within two days most of the cows became better.

Mr Lindsay said he also took one calf which was still alive to one of the world's biggest veterinary centres in the world, Onderstepoort near Pretoria in South Africa for tests but it died on the way in Middleburg.

'The toxin, whatever it is, its a killer, all the cattle that contracted it died within hours, but tests and blood specimens taken from that dead calf in Onderstepoort showed nothing. So no one knows in the meantime what type of toxin it is, he said.

He added: "Now I cannot say that it is the Kikuyu grass because after a fortnight we took back six heifers to graze on the same pasture for six days and none of them reacted at all."

Mr Lindsay said some of the Kikuyu grass from the pastures had been taken for clinical tests but nothing showed.

"So far it still remains a mystery as to what actually killed all 23 of them so fast. Sometimes I think to myself that the long drought spell had something to do with it or the spate of white butterflies that invaded the country at that time," he said.

Asked if he had ever met with this type of killer toxin before, Mr Lindsay who had worked as a dairy farmer all his life and three years managing the Swazi farm said he had never.

There is another toxic killer, he said, called senacia but it is not found around here.

The Managing Director for Tibiyo Taka Ngwane which wholly owns the dairy farm, Dr Sishayi Nxumalo, said Tibiyo was not directly involved in management of the project so it was not in a position to know what was being done at the moment.

CSO: 5400/175

VIETNAM

BRIEFS

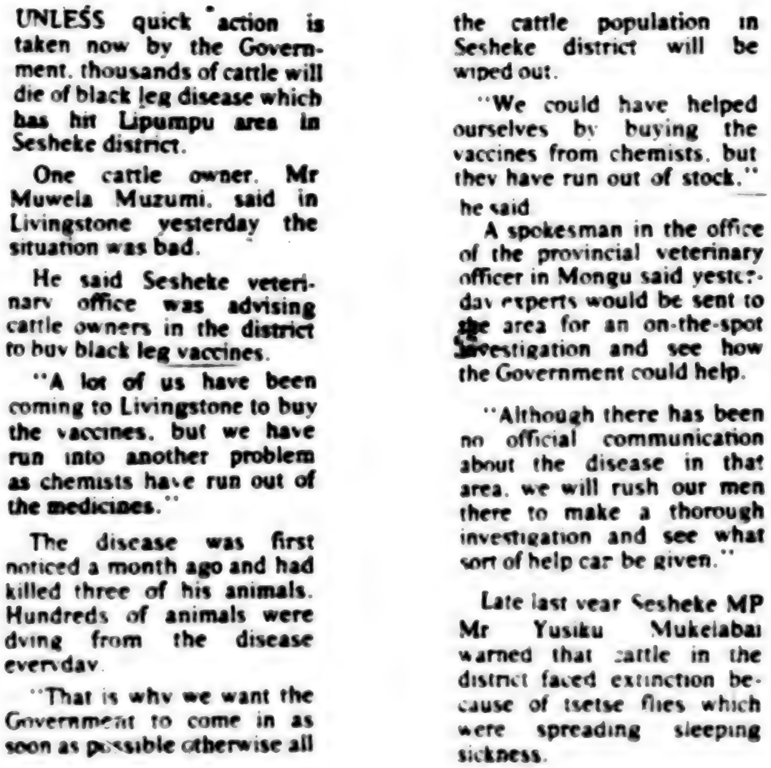
ELIMINATION OF ANTHRAX EPIDEMIC--While protecting bovines from the cold, many places in Ha Tuyen have detected and promptly curbed and stamped out pockets of anthrax. Recently, due to inappropriate antiepidemiologic work, anthrax has recurred, threatening the bovine and horse population in the villages of Xuan Giang (Bac Quang District), Ngoc Hoi and Yen Lap (Chiem Hoa District). Following detection, the provincial veterinary sector has sent many cadres to these villages to coordinate with their district counterparts in order to curb and stamp out the epidemic. Many places in the province have properly carried out measures to protect buffaloes and cattle from hunger and cold. Since the beginning of winter, families in Dong Van District have repaired stables, covered wall holes and brought in dry grass, hay and corn stalks to be used as feed reserve. [Text] [Hanoi QUAN DOI NHAN DAN in Vietnamese 17 Jan 82 p 1] 9213

CSO: 5400/4374

BLACK LEG OUTBREAK THREATENS LIPUMPU AREA CATTLE

Lusaka TIMES OF ZAMBIA in English 14 Feb 83 p 5

[Text]



UNLESS quick action is taken now by the Government, thousands of cattle will die of black leg disease which has hit Lipumpu area in Sesheke district.

One cattle owner, Mr Muwela Muzumi, said in Livingstone yesterday the situation was bad.

He said Sesheke veterinary office was advising cattle owners in the district to buy black leg vaccines.

"A lot of us have been coming to Livingstone to buy the vaccines, but we have run into another problem as chemists have run out of the medicines."

The disease was first noticed a month ago and had killed three of his animals. Hundreds of animals were dying from the disease everyday.

"That is why we want the Government to come in as soon as possible otherwise all the cattle population in Sesheke district will be wiped out.

"We could have helped ourselves by buying the vaccines from chemists, but they have run out of stock," he said.

A spokesman in the office of the provincial veterinary officer in Mongu said yesterday experts would be sent to the area for an on-the-spot investigation and see how the Government could help.

"Although there has been no official communication about the disease in that area, we will rush our men there to make a thorough investigation and see what sort of help can be given."

Late last year Sesheke MP Mr Yusiku Mukelabai warned that cattle in the district faced extinction because of tsetse flies which were spreading sleeping sickness.

CSO: 5400/171

BRIEFS

CORRIDOR DISEASE OUTBREAK--More than 100 head of cattle have died in Kachenje area of Choma district following the outbreak of Corridor disease, provincial veterinaty officer Dr Namasivayan Balasubramanium confirmed yesterday. Dr Balasubramanium said he had dispatched his officers to the area to combat the disease which is reported to have originated from Monze district. The department had sufficient drugs and sprayers to contain the situation following the recent donation of the items by SPAFIF to the Department of Agriculture. Although 135 head of cattle are officially reported to have died, villagers in the area said more animals have perished in the remote parts of the district. [Tdxt] [Lusaka DAILY MAIL in English 11 Feb 83 p 3]

CSO: 5400/171

ZIMBABWE

BRIEFS

FOOT-AND-MOUTH OUTBREAK--Bulawayo--Members of the Limpopo Intensive Conservation Area met in West Nicholson yesterday to discuss the outbreak of foot-and-mouth disease in the area. The disease has restricted movement of cattle sales amid mounting concern about the effects of the drought of the cattle industry. The 25-member ICA has a beef herd of 30 000 in an area in which the rainfall is erratic. Reports in Gwanda yesterday said farmers were meeting officials of the Department of Veterinary Services to discuss the outbreak of the disease. The ICA and surrounding communal lands had been declared infected areas and a major immunisation campaign has been launched. The disease has so far been located on five paddocks on the Towla section of Lemco's Mazunga ranch. The vaccination of the 63 000 head of cattle on Mazunga ranch was reported completed yesterday. The assistant provincial veterinary officer for Gwanda which covers the ICA, Dr Dennis Lampard, said that vaccination had also been completed on three other ranches of Drihoek, Makado and Highway. He said livestock inspectors had yesterday moved to Zindele, Chomfukwe and Dubane ranches to the west of Mazunga ranch. Up to Tuesday an estimated 73 000 head of cattle had been vaccinated and Chomfukwe and Zindele had added another 2 900 head yesterday. [Text] [Harare THE HERALD in English 10 Feb 83 p 3]

FOOT-AND-MOUTH VACCINATIONS--A major breakout of foot and mouth disease in the Limpopo Intensive Conservation Area has prompted a huge vaccination campaign. By Wednesday 63 000 cattle had been vaccinated at Mazunga Ranch and 2 900 at Zindele Farm. The campaign moved to Siyoka communal land yesterday. The Department of Veterinary Services has announced that it aims to immunise 150 000 cattle. Half of these had been treated by Wednesday night. [Text] [Harare THE HERALD in English 11 Feb 83 p 1]

CSO: 5400/163

AUSTRALIA

BRIEFS

WHEAT RUST EPIDEMIC--A previously rare strain of rust appears to have been a factor in a wheat-rust epidemic that has damaged crops in some areas of WA, according to the Department of Agriculture. Tests at Sydney University on WA wheat samples showed a dramatic increase in the strain 343-1, 2, 3, 5, 6. Plant pathologists said that more than two thirds of the rust affected samples belonged to this strain. It had attacked egret, lance, warigal and warimba varieties. The pathologists said that these varieties had previously provided a major source of rust resistance in the rust-prone areas of the State. Some rust had been seen on madden and kite wheats through tests showed that the two varieties were still resistant to all the rust strains found in WA, including the new strain. These would be the major rust-resistant varieties available for next year. Gamut and two new wheats, eradu and wialki, also were resistant. The Department of Agriculture said that though egret wheat was now susceptible to rust it was resistant to septoria diseases and these occurred more often than rust. [Text] [Perth THE WEST AUSTRALIAN in English 20 Dec 82 p 33]

CSO: 5400/7545

PARLIAMENT PASSES BILL TO FIGHT CROP PESTS, DISEASES

Bridgetown THE NATION in English 3 Feb 83 p 11

[Text] Parliament has given easy passage to what will now be known as the Plant Pest and Disease (Eradication) Act, a measure designed primarily as a precautionary action against crop damage by pests and disease.

The Act consolidates and amends other Acts relating to sugar cane mosaic disease, and provides for the eradication of love vine, and wild native cotton, as well as for the eradication of specified plant pests and diseases.

In piloting the Bill through the second reading on Tuesday, Minister of Agriculture, Dr Richard Cheltenham explained that a number of anomalies had shown up in the several Acts dealing with plant pests, which were scattered across this country's statute books.

Some were ineffectual, others obsolete; some others were inconsistent.

He said there was no particular urgency about the new legislation since Barbados had been able to control smut disease which affected sugar cane, but he explained that the country had to be prepared for eventualities from wind or airborne diseases.

"Legislation must be in a state to allow us to respond with speed," said Cheltenham.

A feature of the Bill is the powers it confers upon the minister to declare plant pests and diseases to be eradicated; as well as to provide the official inspection periods for the plant pests and diseases and determine areas in which any economic crop plants that are susceptible to a specified pest or disease are not to be planted or grown during periods specified in the order.

The Act also empowers the Chief Agricultural Officer or inspector to enter at any time, any farm, plantation or building other than a dwelling house for the purpose of determining the existence of any plant pest or disease.

It also prohibits the cultivation of host plants or alternate host plants of a declared plant pest or disease in infected areas without approval from the Chief Agricultural Officer.

During debate on the measure in Committee of Supply, MPs drew attention to a "bunching top" disease which virtually wiped out the paw-paw fruit here; wind-blown herbicides said to be affecting vegetable farmers in St Philip, and an acute "cow-itch" problem that was irritating residents in St James.

Dr Cheltenham, who also complained of the "cow-itch" nuisance in his St James Halcyon Heights neighbourhood at one stage quipped: "That is the price you pay for living in the heights."

However, he pointed out that Government had already provided funds to tackle "cow-itch" and work was expected to start shotly to eradicate that problem. "Cow-itch," however, was not a plant pest, the minister explained, since it did not affect plants like wild native cotton and love vine.

On the question of the "bunching top" disease, Cheltenham said that Government had obtained assistance from Trinidad to investigate the virus which affected the paw-paw plant, but he had not yet been advised on any curative treatment.

According to him, Barbados was late in being affected by the "bunching top" virus which struck in other countries. Further, he reported, scientists had been searching unsuccessfully and desperately for the past 20 years for a resistant variety of paw-paw.

As far as herbicidal drift was concerned, there was nothing Government could do but to get the ministry's extension officers to try to improve farmers' education in the use of herbicides.

CSO: 5400/7546

BRIEFS

OAXACA COFFEE RUST--The SARH [Secretariat of Agriculture and Water Resources] yesterday reported in a press bulletin that coffee rust has spread to Oaxaca, where outbreaks were noted, beginning with 13 January. The bulletin added that for 1 1/2 years, from July 1981 to December 1982, it was possible to confine the disease agent to Chiapas. The bulletin says that, upon comfirming the situation in Oaxaca, a team of technicians from the Plant Health Department and from Imecafe was sent on an inspection tour of the coffee plantations in the town of Cuajiniquil, where nine sources of rust were found, scattered over an area of 500 hectares. To control this situation, a program was set up, which includes 20 inspection zones. This procedure, as in the case of the state of Chiapas, is aimed at preventing the plague from affecting production. It was reported also that in the Soconusco area there are isolated outbreaks of rust in coffee plantations located in the towns of Tapachula, Union Juarez, Cacahuatan, Tuxtla Chico, Tuzantan, Huhuetan, Huixtla, Villa Comitan Santiago Iscluintla, Motozintla, Margarita and Palenque. There are 75,000 hectares of cultivated land in the Soconusco area. [Text] [Mexico City UNOMASUNO in Spanish 20 Jan 83 p 8] 8255

CSO: 5400/2045

AUSTRALIAN BAN ON PHILIPPINES BANANA STAYS

Manila PHILIPPINES DAILY EXPRESS in English 12 Feb 83 p 10

[Article by Rosario A. Liquicia]

[Text] Australia will continue to ban the importation of Philippine bananas because of the presence of three plant diseases in the country, according to the Australian embassy in Manila.

In an advice to the Ministry of Trade and Industry, the local embassy said that the department of health of Australia has banned the importation of Philippine bananas "due to the presence in this region of Moko Disease, Black Sigatoka and Black Leaf Streak Fungi."

This prohibition will remain enforced until the Australian department of health is convinced that these diseases have been eliminated in the country, the embassy added.

E.B. Dillon, commercial minister of the embassy, also said that the import of home dried bananas is similarly prohibited although factory-dried bananas with low moisture content are permitted.

The report was issued in response to an earlier Ministry of Trade and Industry inquiry regarding export of bananas to Australia.

Dillon said there is no import duty on all Philippine bananas exported to Australia but there are restrictions to their entry for health reasons.

Australian importation of bananas is not substantial, the embassy report said, amounting to only 37.38 tons in 1981, valued at $22,339. Of these imports, $17,000 came from the United States and $3,000 from the Philippines.

Exports from the Philippines were in the form of dried bananas.

Dillon stressed that there is no tariff impediment to the sale of local fresh bananas in Australia, but purely a question of plant disease, he pointed out.

Local trade officials are scouting for new markets for bananas which have been traditionally shipped to Japan and some Middle East countries.

Banana exports to Japan, however, are subject to high import duties, especially when contained in locally-manufactured carton boxes.

CSO: 5400/4376

FUNGUS DISEASE CAUSES REDUCTION IN CASHEW NUT PRODUCTION

Dar es Salaam DAILY NEWS in English 12 Feb 83 p 3

[Text] The downward trend in cashewnut production in the country has been caused by a fungus disease which affects flowers, the Executive Chairman of the Cashewnut Authority of Tanzania (CATA), Ndugu Saidi Bungara, said from Mtwara yesterday.

There was also a problem of old trees, and some of the farms were not weeded, but the biggest worry was withering of flowers, Ndugu Bungara said in a telephone interview.

Cashewnut production in the country has dropped from 145,000 tonnes in 1973/74 to less than 40,000 tonnes expected this year.

According to the executive chairman, agricultural researchers have identified the fungus, and had at one time recommended a chemical, but it was found to be too expensive for the peasants. He did not name the chemical.

Ndugu Bungara did not say what type of a fungus it was, but said cashewnut trees were setting flowers normally during the rainy seasons. After one or two months, the flowers start to wither out and some of them dry off, he said.

Ndugu Bungara also said that the disease was not confined to Tanzania alone, as our neighbours in the south were also facing the problem.

The executive chairman could not immediately say what was the solution to the disease, but reiterated the need for peasants to uproot old trees and plant new ones instead.

Ndugu Bungara acknowledged that some peasants did not heed the call to weed farms.

He estimated the farms which were properly weeded and looked after to be 50 percent.

Poor cashewnut production has forced the CATA to close some of its factories.

CATA has announced that only five out of its eleven cashewnut processing factories would open this season due to shortage of enough nuts to run the factories.

It was earlier estimated that 47,000 tonnes of cashewnuts would be realised this year, but according to the executive chairman, this figure was scaled down to 40,000 which might not be realised.

CSO: 5400/172

BRIEFS

GRAIN BORER DESTRUCTION 'SERIOUS'--The Tanzania Food and Nutrition Centre (TFNC) yesterday called on the Morogoro Regional leaders, the Ministry of Agriculture and other relevant institutions to mobilise their resources in the fight against the grain borer scania now threatening maize produce in Ulanga District in the region. The TFNC said in a statement issued to SHIHATA in Dar es Salaam that food situation in parts of the region, particularly Mwaya Division in Ulanga District, was "precarious" because of the destruction caused by the prodigal beetle "prostephanus truncatus" (commonly known as "scania"). The statement, issued after a survey in the area, said "through our observation we are convinced that the destruction caused by this pest is serious and immediate attention is required to save next harvest's produce and the currently stored product." TFNC's survey in the area early last month showed that the grain borer was spread throughout Mwaya Division, and without immediate effective control measures the next harvest could be in danger, the statement said. [Text] [Dar es Salaam DAILY NEWS in English 3 Feb 83 p 1]

CSO: 5400/159-E

MUSEUM TO CONDUCT TERMITE RESEARCH PROGRAM

Lusaka TIMES OF ZAMBIA in English 14 Feb 83 p 5

[Text]

LIVINGSTONE National Museum is to launch a research programme into population, ecology and movements of termites in relation to the level of crop damage, acting director Mr Manyando Mukela said yesterday.

This was prompted by recent findings of the museum's research department that the majority of crops grown in Zambia were susceptible to termites attack.

Crops like maize, cassava, sugar cane, groundnuts and all citrus fruits were among those easily destroyed by termites.

The museum started a research on termites last June in an effort to help farmers deal with insects which destroyed their crops.

The research included a study on how termites affected eucalyptus trees planted by the Government as bio-energy and timber sources.

Research work slowed down when one of its senior research officers went to Australia to specialise in termites studies.

But a lot of progress had been made since then, with the museum establishing as a fact that most crops grown in the country were susceptible to termites attack.

"We want to find out termite population, their ecology and movements in relation to crop damage. This is of great importance to us."

CSO: 5400/171

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